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DISEASES OF THE EYE AND EAR

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DISEASES OF THE EYE AND EAR

by

JONATHAN HUTCHINSON

(Fascimile of 1863 Edition)



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INTRODUCTION

by

PAUL HENKIND, M.D., Ph.D.

Jonathan Hutchinson appears to have been the first and, perhaps, the last of the all-encompassing doctors of modern medicine. An eminent ophthalmologist, he was also a renowned general surgeon, dermatologist and skilled neurologist. He considered himself to be a generalist and, indeed, was opposed to specialization in medicine.

Dr. Hutchinson was born in Selby, Yorkshire in 1828. At age seventeen he was apprenticed to the Quaker surgeon-apothecary-preacher Caleb Williams and late in his apprenticeship attended lectures at the local York School of Medicine and Surgery. At times he was the sole student at this small medical establishment. When he reached twenty-one he went to London to study at St. Bartholomew's and, except for a short time back in Yorkshire, he remained in London for the rest of his long, illustrious career. He was not content with specializing in one field and joined the staff of Moorfields Eye Hospital, Blackfriars Skin Hospital, London Chest Hospital, and London Hospital. He was active in virtually every phase of medicine and soon established a reputation of significance. Hutchinson was only twenty-four when he published an unsigned article dealing with luetic iritis. By thirty he was the world's leading expert on syphilis.

This book, a distillate of a remarkably wide experience, was published when Hutchinson was thirty-five and one of the most sought after physicians in London. It is a wonderful document that demonstrates how a perceptive individual, knowledgeable in many phases of medicine can, by simple observation, piece together information. Hutchinson put the pieces of congenital syphilis into a framework which has withstood more than one hundred years of testing. Here are all the facts and figures assembled in a manner that puts most medical works to shame. We find that, without laboratory tests, without the slit-lamp, and without audiometry, we have here most of the relevant information concerning congenital syphilis. The triad that bears his name is documented here for the first time.

This work is one of more than 1,200 known publications by Hutchinson and ranks with his Archives of Surgery as among his most important contributions. It is a book that can be read on more than one occasion and will always prove enlightening and enjoyable.

An image of a white envelope with a blue ink stamp. The stamp is circular with a five-pointed star in the center. Around the star, the words "ILLINOIS STATE POLICE" are printed in a bold, sans-serif font, with "DEPARTMENT OF PUBLIC SAFETY" printed below it in a smaller font.

A CLINICAL MEMOIR
ON CERTAIN
DISEASES OF THE EYE AND EAR,
CONSEQUENT ON
INHERITED SYPHILIS.

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A CLINICAL MEMOIR
ON CERTAIN
DISEASES OF THE EYE AND EAR,

CONSEQUENT ON
INHERITED SYPHILIS;

WITH AN APPENDED CHAPTER OF
COMMENTARIES ON THE TRANSMISSION OF SYPHILIS FROM
PARENT TO OFFSPRING, AND ITS MORE REMOTE
CONSEQUENCES.

BY

JONATHAN HUTCHINSON, F.R.C.S.,

SENIOR ASSISTANT-SURGEON AND LECTURER ON SURGERY AT THE LONDON HOSPITAL; SURGEON
TO THE METROPOLITAN FREE HOSPITAL; AND ASSISTANT-SURGEON TO THE
ROYAL LONDON OPHTHALMIC HOSPITAL.

LONDON:

JOHN CHURCHILL, NEW BURLINGTON STREET.

—
1863.

LONDON :

PRINTED BY HARRISON AND SONS,

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TO

William Lawrence, Esq., F.R.S.,

THE AUTHOR (AMONGST MANY OTHER ADMIRABLE WORKS) OF "A TREATISE
ON THE VENEREAL DISEASES OF THE EYE."

AND TO

James Dixon, Esq.,

George Critchett, Esq.,

William Bowman, Esq., F.R.S.,

John C. Wordsworth, Esq.,

J. F. Streatfeild, Esq.,

J. W. Hulke, Esq.,

George Lawson, Esq.,

MY SURGICAL COLLEAGUES AT THE ROYAL LONDON OPHTHALMIC
HOSPITAL,

THIS WORK IS DEDICATED,

IN GRATEFUL APPRECIATION OF MANY ACTS OF KINDNESS AND
ESPECIALLY OF MUCH VALUABLE ASSISTANCE AFFORDED IN
THE COLLECTION OF THE FACTS UPON WHICH ARE
BASED THE CONCLUSIONS STATED IN ITS PAGES.

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INTRODUCTION.

THE subject of inherited venereal taint in its causal relation to various diseases occurring in periods of life more or less advanced from those of infancy, has, for the last fourteen years, engaged my close attention. My interest in it was first awakened by a very severe case of so-called "strumous" disease of the bones of the skull in a young gentleman whose mother had suffered from syphilis. The very important practical question was raised, as to whether any specific remedies should be used. I could find in books little or no information by which to be guided, in a differential diagnosis between the remote effects of hereditary syphilis, and those of ordinary "struma." The symptoms of syphilis, as met with in the infant, were well described, but nothing definite appeared to be known, as to the signs by which to recognise the subjects of taint at more advanced ages. Many authors appeared to suspect that this taint was really at the bottom of a large proportion of the so-called scrofulous diseases, but in none could I find any attempt, either to prove the fact, or to define the limits of its extent.

Some cases which, during the years 1850 to '54, came under my observation at the City Hospital for Chest Diseases, and others amongst Mr. Startin's patients at that for Diseases of the Skin, convinced me that in young persons, in association with other suspicious symptoms, and with a peculiar physiognomy, it was not very unusual to meet with evidences of past *Iritis*.

In 1852, I ventured to suggest in print, that Infantile Iritis was a more frequent disease than usually supposed; the suggestion being chiefly based on the frequent discovery of synechiæ in those too young to have suffered from acquired syphilis.

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In 1859, I read at the Edinburgh Meeting of the British Medical Association, a paper entitled "On the means of recognising amongst young persons the subjects of Inherited Syphilis." For some years previously, I had been in the habit of carefully noting, in all suspected cases, the general condition of the physiognomy, and also of the interior of the mouth, examining especially the tonsils, palate, &c. In conducting these examinations, I had been led to notice the very frequent occurrence of malformed teeth. With the help of my friend, Mr. Coleman, who zealously undertook to make casts, &c., of the mouths, I soon accumulated evidence which led me to consider the state of the upper central incisor teeth, by far the most reliable amongst the indications of inherited taint. My conclusions on these matters, were embodied in several communications made to the Pathological Society during the sessions 1857-8 and 1858-9, and published in its transactions for those years. About the same time, the fact that the disease hitherto known as "Strumous Corneitis," was, in practice, never met with, except in conjunction with peculiarities of physiognomy and malformed teeth, came prominently before me.

In 1858, I commenced in the Ophthalmic Hospital Reports, a series of papers on the general subject of Inherited Syphilis in its relation to Diseases of the Eye. Of these papers, the present work is a much extended reprint. The unintended delay which has taken place in bringing it out, I cannot regret, since it has enabled me to accumulate a large amount of additional evidence in reference to most of the conclusions therein advanced; more than this, also, it has given time for other and far higher authorities to form their own opinions respecting them. I have now the great pleasure of being able to state, that the facts which appeared conclusive to my own mind, have also had the same effect on others who examined them without that bias, which almost necessarily warps more or less the judgment of one who sup-

poses himself to have noted something new. With respect to the "Strumous Corneitis," Mr. Dixon, in his able article on Diseases of the Eye, in Holmes' system of Surgery, has stated his conviction that the syphilitic origin of this disease, has been so clearly established, that it is desirable to discard the old name, "and designate it by the shorter one of *syphilitic keratitis*." In reference to the degree of confidence which may be placed in the dental malformations, Mr. Paget has stated, in a clinical lecture at St. Bartholomew's, that he regards them as amongst the most trustworthy of all symptoms.

That "chronic interstitial keratitis" is essentially an heredito-syphilitic disease, and that dental peculiarities, of a certain kind, are, when cautiously examined, a reliable indication of inherited taint, are, indeed, the principal assertions met with in the following pages. That both should be received with incredulity, by those who have not had large opportunities for examining the facts, is what ought not only to be expected but strongly desired.*

In the wish to place both on as strong a basis as possible, I have ventured to record, in considerable detail, a large number of cases. These will, however, it is hoped, have also another and a more extended use in illustrating various other questions in relation to the more remote effects of inherited taint. Some general conclusions on this matter, I have appended in a Chapter of Commentaries, on most of which, at some future time, I hope to adduce numerical evidence. For the present the reader is requested to accept them for what they may seem worth.

* To any one inclined to test the correctness of these assertions I would beg respectfully to insist on the necessity for great caution and attention to detail. In many cases with which I have been made acquainted, and which have been believed to be exceptional to my views, mistakes have been made as to the character of the dental malformations, the set of teeth affected, or the special form of ophthalmia. I cannot too strongly urge that I am in no way responsible for diagnostic errors consequent upon inattention to my descriptions. I should not make this remark were it not that the subject is one of great importance, and that I am very desirous not to mislead even the hasty.

It has happened to me to be accused of entertaining and endeavouring to induce in others far too wide suspicions as to the prevalence and injurious effects of hereditary taint. I must assert that no accusation could be less just. Very early, indeed, in the history of syphilis surgeons, began to suspect that the inherited taint of this disease was most direfully and extensively influential. But there was no certainty; all was vague conjecture.* The result of my enquiries, upon my own, mind has been very much to limit my belief in its extent. Whilst there are peculiar forms of disease which I believe to be its special results, I feel confident respecting the great majority of the chronic diathetic diseases of early life, that they have nothing whatever to do with it. As with acquired syphilis, so with the hereditary, it produces only its own special and peculiar results, and to the trained observer these are for the most part easily distinguishable from all others.

In presenting this little work to the profession, I must not neglect to acknowledge my great obligation to my colleagues at the Moorfields Hospital for assistance given in the prosecution of my enquiry. To Mr. Startin I am also much indebted for the permission (some years ago) to take notes of cases under his care at the Hospital for Skin Diseases, and for much valuable information respecting them. My friend, Dr. Hughlings Jackson, has, throughout the preparation of the work, rendered me assistance of a kind and quality which I cannot too warmly acknowledge.

* Modern authors of much repute have also, in many instances, adopted similar views. M. Ricord has asked, "Is not all struma of syphilitic origin?" and Mr. Erasmus Wilson has repeated the same question, and extended it in detail to lupus, and several other special skin diseases. In the works of Daniel Turner and other old English surgeons similar hints are found.

4, Finsbury Circus,
January, 1863.

ON
DISEASES OF THE EYE,
CONSEQUENT UPON
HEREDITARY SYPHILIS.

CHAPTER I.

ACUTE IRITIS DEPENDANT UPON HEREDITARY SYPHILIS.

THIS affection was first described in connexion with its true cause by Mr. Lawrence, and it is, I believe, the only inflammation of the eye which has hitherto been recognised, with any degree of precision, as dependant on inherited syphilis. Since Mr. Lawrence's notice of it, cases have been recorded by Dr. Jacob, by Maunsell and Evanson, Mr. Walker, and Mr. Dixon. The latter gentleman especially has given an excellent account of its peculiar features. I can, however, find but six cases on record, and, as my own experience supplies but sixteen others, it will be necessary to cite the whole in order to obtain sufficient data for trustworthy inferences. Of previously published cases a short abstract will be enough. To commence with the earliest I shall take first the one recorded by Mr. Lawrence.*

Case I.—Iritis of but one eye occurring in a syphilitic infant.

Jane M., aged 16 months. Acute iritis of the left eye commenced at the age of 15 months. The iris lost its brilliancy and assumed a dark tint. The pupil was a little contracted, and there was some intolerance of light. There was

* Treatise on Venereal Diseases of the Eye, 1830, p. 306.

some sclerotic redness, and also the upper lid was slightly swollen. The infant had at the same time a vaginal discharge and flat condylomata about the anus and on the perineum. Its mother had contracted syphilis three months prior to her confinement. The infant, healthy at birth, was stated to have had afterwards purulent ophthalmia and an eruption on the skin. Mr. Lawrence employed a mild mercurial treatment, and states that the eye recovered completely. It must be noted as perhaps accounting for the unusually delayed appearance of the iritis, that the infant probably contracted the taint only very shortly before birth.

Case II.—Iritis of but one eye in a syphilitic infant.

An infant, aged 11 months, of whose antecedents nothing more is stated than that its father had at the time a syphilitic tubercular eruption. "Well marked iritis" occurred in one eye. No details are given. This appears to have been the only example of the disease which had come under the notice of the writers (Maunsell and Evanson).*

Case III.—Pupil obliterated by iritis in a syphilitic infant.†

In this case the child did not come under Dr. Jacob's care until about three years after the inflammation. It then presented a soft condylomatous elevation at the anus, and numerous small fissures and clefts in the tongue. The diagnosis of syphilis was clear. No suspicion had, however, been entertained as to the true nature of the case previously, and the child was brought to Dr. Jacob to be cured of supposed cataract. On examination of the eye "the pupil was found contracted and adherent to an opaque lens and capsule. Vision was irreparably lost." The other symptoms disappeared under the mercurial treatment which Dr. Jacob adopted. The inflammation of the eye was stated to have occurred at the age of "a few months."

* Practical Treatise on the Management and Diseases of Children, 1847, p. 534.

† Treatise on Inflammations of the Eyeball, 1849, p. 97.

*Case IV.—Iritis of one eye in a syphilitic infant.**

Mary O., aged 6 months, had been, when six weeks old, the subject of a copper-coloured rash on the hands and legs. It had been partially cured by medicine, but enough still remained to identify it. At the age of five months the right eye inflamed. The iris became muddy, and showed three or four whitish masses of lymph on its surface. The pupil was all but motionless : the conjunctiva and sclerotic were much congested, and the cornea hazy. After a fortnight's mercurial treatment both the iritis and the rash "had almost wholly disappeared." The attack of iritis had lasted altogether about six weeks.

The next two cases are from Mr. Dixon's work, and were treated under that gentleman's care at the Moorfields Ophthalmic Hospital.

Case V.†—Iritis of one eye in a syphilitic infant—Deposit of lymph on the capsule of the lens in the other eye—Recovery of both.

Mary Ann W., aged 3 months. Healthy when born, but at the age of seven weeks had a scaly syphilitic eruption. The iritis had set in in the ninth week, and the acute stage had passed by, when, three weeks later, the child was placed under Mr. Dixon's care. The accompanying symptoms were, loss of the eyelashes, aphthæ in the mouth, scaly eruption on the face, copper-coloured patches on the belly and thighs, and desquamation of the cuticle in different parts. Although both parents denied syphilis, yet the real nature of the disease was beyond doubt. It appeared that there had never been much congestion of the tunics of the eyes, the earliest symptom noticed by the mother having been "a pearly appearance in each pupil." The left iris was dotted over with grains of lymph, its pupil contracted and adherent.

* Provincial Medical and Surgical Journal, 1845, p. 293.

† On Diseases of the Eye, p. 149

The right iris was clear, but on the capsule of the lens was a crescentic patch of effused lymph. Under a three months' steady employment of small doses of mercury, every trace of deposit disappeared in both eyes. The efficiency of mercury in effecting the removal of lymph, which had evidently been some time effused, was very conclusively marked.

Case VI.—Double iritis in a healthy-looking infant, but with a clear history of hereditary syphilis—Permanent occlusion of one pupil.*

William J. J., aged 4 months. Healthy when born, but when a month old had a dusky red eruption over the body, which disappeared under mercurial treatment. His mother owned to having had sores, followed by secondary symptoms, a few weeks before her pregnancy. When admitted under Mr. Dixon's care, the right eye only was affected. The child was then healthy, well grown, and lively, and displayed no other symptoms of syphilis. There was, however, "a certain dusky tinge of the skin," which disappeared under the subsequent treatment. The iritis had existed only a week, and at first the mother had noticed the white of the eye to look "pinkish." All sclerotic congestion had, however, passed away at the time of admission : the cornea was quite clear, but the lower half of the anterior chamber was occupied by pale yellow lymph. The pupil was misshapen, but the upper half of the iris was clear. Five days later, the eye was much worse, the iris being discoloured, and much additional lymph effused. The left iris was also slightly inflamed. Mercury was now commenced, and in about a month the effused lymph had been absorbed. The pupil of the right eye was, however, permanently occluded. In the left the restoration was perfect.

The above six cases are all the examples of syphilitic iritis in infants I have been able to find recorded. The

* Op. cit., p. 145.

following are those which have fallen under my own observation :—

Case VII.—Double iritis in a syphilitic infant—Recovery of both eyes.

Harriet H., aged 8 months, an illegitimate infant, was brought by her mother to the Hospital for Skin Diseases in July, 1852. She was wasted and cachectic, and about the anus were excoriated condylomata: there were also ulcerated fissures extending from the alæ nasi. Her mother was covered with syphilitic rash. It was stated that, when a few weeks old, the child was affected by severe snuffles, after which double otorrhœa and a rash on the nates occurred. The right eye only was affected at first. Its anterior chambers contained much brownish lymph, and the iris, where visible, was muddy and discoloured. There was a very faint sclerotic zone, and no intolerance of light. Mercurial treatment was at once adopted, and the lymph was slowly absorbed. The mother attended irregularly, and two months later a slight attack of iritis occurred in the infant's left eye. Four months from the date of admission all lymph had been absorbed from both eyes, excepting that some slender adhesions of the pupillary margin remained in the right. The complete though slow absorption of so large a quantity of lymph was a result very encouraging to the long-continued use of mercury in similar states.

Case VIII.—Iritis in one eye in a syphilitic infant—Result not known.

Emily C., aged 3 months, attended in the out-patient's room at St. Bartholomew's Hospital, under the care of Mr. Wormald, in the summer of 1852. Her mother denied having had sores or other suspicious symptoms, but she had, she said, greatly lost her health since marriage, and had had one miscarriage. This was her first living infant. The child was stated to have been healthy when born, and to have

remained so until aged two months, when there appeared almost simultaneously an eruption of psoriasis on the face, patches of erythema marginatum about the thighs and body, aphthæ in the mouth, snuffles and emaciation. Quickly following on these was inflammation of the left eye. The iritis had existed about a month when first brought under notice. The pupil was then irregular, fixed, and partially occluded by lymph. The iris was discoloured. There was no sclerotic congestion. A mercurial course was commenced, but the mother did not attend, and I am, therefore, unable to state the result.

Case IX.—Slight iritis in a syphilitic infant who had been some months under treatment—Perfect recovery of the eye.

Christopher T., aged 8 months, had been attending for four months, under Mr. Startin's care at the Hospital for Skin Diseases, on account of syphilitic rash, etc., before the iritis shewed itself. Mercurials had been ordered, but the attendance had been very irregular. His mother had also been under treatment for the same disease. This was her first living child. When born he was stated to have been healthy, but at two weeks old unmistakeable symptoms shewed themselves. They consisted in papular rash over the whole body, snuffles, and muco-purulent ophthalmia. All these were nearly well when the iritis supervened. A zone of sclerotic redness was present during the first four days of the attack, but afterwards wholly disappeared. The iris became muddy, and of a sea-green hue, but there was no great effusion of lymph upon its surface. The mercurial treatment, which had been disused, was resumed, and in the course of a fortnight the iris was perfectly clear.

Case X.—Iritis in one eye in a syphilitic infant—No treatment—Permanent occlusion of the pupil.

Sarah P., aged 8 months, a pallid puny infant, was admitted under Mr. Wormald's care at St. Bartholomew's Hospital, on April 20th, 1855. Her mother had lost five

infants with suspicious symptoms, and this was her only one living. She was stated to have appeared quite healthy at the time of birth, but had begun to suffer from snuffles and rash on the skin when a fortnight old. There was a copious eruption of psoriasis on the body, a crop of condylomata around the anus, and the odour peculiar to syphilitic children was very distinct. The right eye only had suffered. Its pupil was wholly occluded by a large deposit of reddish lymph, which had become organised. The cornea was unduly prominent. The disease had existed for some months, and no treatment had as yet been adopted. Unless restored at some future time by an operation for artificial pupil vision was totally lost.

Case XI.—Slight double iritis in a syphilitic infant
—Result not known.

Alice Kate C., aged 2 months, was admitted under Mr. Critchett's care at the Moorfields Hospital, on September 25th, 1855. Her mother had borne eight children, of whom this was the only one surviving. Six of the others had been stillborn, and one had died with well marked syphilitic symptoms. The patient was, according to report, and as is quite usual, of fair skin and very healthy aspect at the time of birth. When a week old, psoriasis of the palms and soles was noticed, and shortly afterwards general psoriasis and severe snuffles. She was now a cachectic puny baby. The psoriasis for an infant was unusually well marked, the patches being thickly crusted with shining white scales; it was also very symmetrical. The skin of the palms and soles was peeling; all the lids were affected by tinea tarsi, and both irides, which were stated to have been blue, had assumed a sea-green colour. Both pupils were notched at their margins and had slender films of lymph attached to them, but there was no visible deposit of lymph on either iridal surface. A delicate pink zone was perceptible in each sclerotic when looked for, but might have easily escaped notice. A mercurial treatment was commenced, but the irregularity of the mother's

attendance prevented me from becoming acquainted with the result of the case.

Case XII.—Iritis of one eye in a syphilitic infant—Anterior chamber wholly occupied by lymph—Result not known.

Anna L., an infant Jewess, aged 3 months, was admitted under Mr. Critchett's care at the Moorfields Hospital. Her mother denied having ever had venereal disease. Both her previous infants had, however, died, and she herself had fissures at the angles of the mouth of very suspicious aspect. Healthy at the time of birth, the infant was stated to have begun to snuffle on the third day, and it was now puny and wasted, with fissures at the corners of the mouth, and psoriasis over the arms, hands, and fingers. The right eye only was affected, and had been inflamed for one month. The sclerotic zone was now faint, but the pupil was wholly obliterated and the cornea rendered opaque by a mass of lymph which adhered to it and occupied the anterior chamber; the lids were inflamed. Mercurial treatment was commenced, but I lost sight of the case and have no further note of its progress.

Case XIII.—Iritis of one eye in an infant, believed to be syphilitic—Permanent occlusion of the pupil.

Emily W., aged 1 year, came under notice amongst Mr. Critchett's out-patients at Moorfields. Her mother denied having ever had any form of venereal disease. She had borne seven children, of whom three only were living; the last five had all been born prematurely. Several had, she said, suffered in infancy from severe and protracted snuffles, but beyond this all suspicious symptoms were denied. The infant herself was stated to have had a sore mouth and sore anus when a few weeks old; she had never thriven, and, to use her mother's expression, "was still as much of a baby as at the time of birth;" she was a little, puny infant, and the bridge of her nose was much expanded, but she presented no positive symptoms beyond the iritis. The right eye alone was inflamed, and two months had elapsed since the commence-

ment of the attack, during which no treatment had been adopted. The pupil was occluded by reddish-yellow lymph, which appeared vascular and organised, and did not look at all as if likely to be absorbed. There was no material sclerotic redness. Mercurial treatment (inunction) was prescribed, and, contrary to expectation, in about two months absorption was so far complete that only a thin white membrane remained. The child had both grown and greatly improved in health during the treatment. It is intended shortly to perform an operation for artificial pupil on the occluded eye.

Case XIV.—Iritis of one eye in a syphilitic infant—The other eye attacked eight months afterwards—Permanent occlusion of one pupil and much damage to the other eye.

The subject of this case was a girl aged 2, to whom my attention was called by Mr. Wormald at St. Bartholomew's Hospital. The left eye had first inflamed at the age of sixteen months; the attack being a pure iritis without any affection of the cornea; much lymph was effused, but the sclerotic congestion was but slight. Mr. Wormald ordered mercury, and under its influence most of the lymph was removed, leaving the pupil, however, permanently occluded. The treatment was pursued very irregularly, owing to the child's parents living in the country. After having ceased to attend for about six months she was admitted for a second time, on account of iritis of the right eye, with acute inflammation of the cornea, and a central ulcer which threatened perforation.

Unfortunately, I have preserved no note of the other syphilitic symptoms presented by the child; I know, however, that they were unmistakeable. Mr. Lawrence as well as Mr. Wormald saw the case and coincided in the diagnosis. The mother confessed to having had syphilis, and if I remember right, had been herself treated by Mr. Wormald for constitutional symptoms. When I last saw the case, the inflammation was subsiding under specific treatment. It appeared certain, however, that the eye would be permanently much damaged.

Case XV.—Iritis of both eyes in a syphilitic infant—Permanent occlusion of the left pupil—Operation for artificial pupil.

James C., of Irish parents, aged 4 months. [This case as also cases 12, 13, and 16, were under Mr. Critchett's care, at the Moorfields Hospital, but the patients were, through that gentleman's courtesy, transferred to myself.] He was when born, to all appearance, a healthy infant, but at the age of one month began to snuffle badly, and was soon afterwards the subject of a scaly rash. After this the mouth and anus became very sore; iritis set in when he was two months old, and began in the left eye.

My note, on December 29, 1857, states "The boy still looks fairly healthy, but has bad snuffles and the remains of a rash. The left eye has been noticed to be inflamed for two months and was formerly 'bloodshot.' At present there is no sclerotic zone, but the pupil is occupied by a white film, and in the outer part of the anterior chamber is a large irregular mass of yellow lymph. The lymph is adherent to the cornea but the latter structure is not in itself involved. The mother is not aware that the right eye has ever been inflamed, but on inspection its pupil is seen to be irregular from adhesions, and the iris is decidedly dull." The treatment adopted consisted in mercurial irrigation and was effective in procuring the absorption of all the lymph, excepting that occupying the pupil itself. He improved greatly in health, grew rapidly, and got fat. On June 7, the eye having been quite quiet for four months past and the process of absorption being evidently at a stand still, I determined, with Mr. Critchett's concurrence, to attempt the removal of the occluding membrane. Our decision against any longer waiting was chiefly grounded on the fact, that the eye was already beginning to assume those oscillatory movements so common in the eyes of young children when perception of light is lost. The occluding membrane was evidently very tough and thick and it was feared that unless light could be let in, the globe would

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not develope. The operation was accomplished by the simultaneous use of a cutting needle and Leur's forceps, introduced from opposite sides of the cornea. The opaque material, which was exceedingly tough, was seized by the forceps and then cut free at its margins by the needle. A good clear pupil was thus gained for the time. The subsequent effusion of lymph will, however, necessitate recourse to the needle again at some future time.

Case XVI.—Slight iritis of one eye in a syphilitic infant—Recovery of the eye, though with some adhesions.

"Wm. John J., aged 9 weeks. Healthy when born, and remained so according to his mother's account, until six weeks old, when he had 'small-pox'; after this his eyes inflamed. Of the so-called small-pox not a single scar now remains, but the buttocks are covered with syphilitic eczema and ulcerated condylomata surround the anus. He has also snuffles. His mother looks ill and has an eruption of psoriasis. During the first week of pregnancy she had, she states, much soreness and pain in micturition and a bad discharge; after this her hair fell off; she has been liable also to cracks at the angles of the mouth. She is not aware that she has had any venereal disease, and has never been treated for such."

The iritis in this instance was of the left eye only, and there was so little either of effused lymph or of sclerotic congestion, that several of those present were inclined to doubt my diagnosis. The use of atropine, however, removed all incredulity by leaving the pupil oblique and deeply notched in several directions. It was the peculiar green tint of the iris which had led me to believe that it had been inflamed. All acute symptoms had evidently subsided. The lids were swollen, and there was some mucous discharge. Mercurial inunction was ordered and the infant got rid of its rash. The iris also, to a considerable extent, regained its normal colour and brilliancy. The adhesions, or most of them, still remained at the time the child was last seen.

Case XVII.—Iritis in one eye in a syphilitic infant.

James W., aged 14 months, was admitted an out-patient at the Moorfields Infirmary under Mr. McMurdo's care, on July 2, 1856, with iritis of the left eye. The inflammation had been going on for about three weeks. On examining the affected eye, the iris was found discoloured; there was a faint sclerotic zone and slight hypopyon. In the right eye there was observed a deep-seated yellowish appearance, as if from strumous deposit. The child was born at seven months, and looked sickly. Six weeks after birth there was an eruption of red spots, which the mother attributed to taint from the father.

Hydrargyrum c. cretâ was prescribed in one-grain doses every night, and three minims of liquor cinchonæ were given twice a-day. Alum lotion was also ordered to be used.

July 5. The left eye very much better. Condition of the right unchanged.

July 12. The left eye is still improving. The right continues the same.

July 31. Doing well as regards the right. No improvement in the left. The child is now suffering from an attack of diarrhoea.

The above notes were taken by Mr. Moon, who was at the time House Surgeon to the Hospital, and are unfortunately incomplete.

Case XVIII.—Insidious attack of double iritis in a syphilitic infant—Partial exclusion of both pupils.

The following case came under my notice a few months ago amongst Mr. Dixon's out-patients, at the Moorfields Infirmary.

A healthy-looking woman, florid, and not bearing the slightest indication of being the subject of specific cachexia, brought with her an infant who nearly equalled herself in its aspect of good health. The infant was a girl, aged six months, and was believed by her mother to be nearly, if not quite blind. It was the discovery that she could not see,

which had been made for the first time about six weeks ago, which had excited the mother's anxiety. On superficial examination nothing was observed to account for blindness, though it was evident from the manner in which the globes were rolled, and the absence of steady direction of them, that the suspected condition was really present in considerable force. It appeared on careful trials, however, that vision was not wholly lost. There was not the least congestion of the eyes, the irides were of normal brilliancy, and the pupils round. As just stated, the aspect of the infant was quite that of average health, the skin of its face, neck, and arms, was perfectly free from rash or discoloration. I noticed, however, that the bridge of its nose was rather suspiciously broad, and this led to the question being asked whether it had suffered from snuffles. The mother replied that its nose had been "dreadfully stopped," and on further questioning it was ascertained that the child had ulcers on the nates, that it had, a few months ago, had a rash on the skin, and that two of its nails (thumb and forefinger), had come off "dry-like." The ulcers on its buttocks proved to be condylomata, about the anus of a most unmistakeable character. The mother admitted at once, on being further questioned, that she had contracted a sore from her husband about eleven months before the birth of her infant, that she had a rash and sore throat after it. No mercury had been given either to mother or child as far as could be ascertained. During the greater part of her pregnancy the mother had been attending the Victoria Park Hospital, under Dr. Edwards' care on account of repeated slight attacks of haemoptysis. She had, however, quite regained her health, and was now wholly free from specific symptoms.

Mr. Dixon having obtained the above history, inspected the infant's eyes more closely, and discovered evidences of past iritis in both, some small tags of adhesion between the pupillary margin and the capsule of the lens existing in each. Atropine having been used, the pupils dilated very irregularly, but not sparingly, and a thin film of false membrane

was seen occluding the pupil almost entirely in each eye. The child had never before been under any medical care for her eyes, and the mother denied, most positively, having ever observed any signs of inflammation in them. She admitted, however, on its being suggested, that she had once for a day or two noticed them a little red, "at least a kind of pink." This was about two months ago.

Case XIX.—History of primary syphilis in both parents—Infantile syphilis in child—Acute iritis in right eye.

Caroline W., an infant aged 8 months, was admitted on March 1, its right pupil being closed by red organized lymph. She was a puny child, with a large hydrocephalic head. The peculiar "snuffles" was well marked, and the mother stated that there had been a rash out on its nates and thighs, which was now well. It was an eight months' infant, but notwithstanding was when first born healthy looking and of good size. When three weeks old it began to fail and suffer from snuffles, and soon afterwards blotches broke out. The eye was not noticed to have anything the matter with it until two weeks ago and it had never been much bloodshot, nor has there seemed to be much pain attendant on the attack. At present the colour of the affected iris was green, the healthy one being blue, there were no masses of lymph excepting in the pupil itself, which were quite closed thereby. The lymph was very red, there was when carefully looked for a faint sclerotic zone of redness, the cornea was quite clear.

On being questioned, the mother, who was herself quite healthy, excepting being pallid and liable to leucorrhæa, stated that in March 1858, she had a miscarriage and about the same time suffered from sores on the genitals, which her medical man said was due to disease from her husband. She had since had several bad sore throats, but no rash. Her husband an engine driver was she said a fine healthy looking man, but she knew that he had lately suffered from a bad sore throat. The patient was their first living child.*

* Med. Times and Gazette, 1859, Ap. 23, p. 420.

Case XX.—Acute syphilitic iritis in the right eye of a syphilitic infant—History of syphilis in the father.

Emma D., a fairly grown infant aged 4 months, was admitted under my care at the Ophthalmic Hospital on May 7. Although of average size the nature of the disease was made manifest by most marked symptoms. She was covered with a copper-coloured scaly rash, had bad snuffles, and a sore mouth, with white patches on the tongue, her anus was also sore, and superficially fissured. She was stated to have been quite without symptoms at the time of birth and to have continued so till a month old. The snuffles began in the fourth week and the rash showed itself in the middle of the third month. The mother was a florid and fairly healthy woman. She stated that she had never had any suspicious symptoms and that she knew nothing as to what was amiss with the infant until a medical man whom she consulted told her. After this she accused her husband who admitted having had "the disease" shortly before marriage. They had been married eighteen months, and this was the first child. The husband was stated to have been ever since the marriage apparently in perfect health.

The iritis affected the infant's right eye, the pupil of which was wholly closed by red lymph; there was no increased vascularity of the sclerotic, and the outer part of the iris was not obscured; the cornea was quite clear; a drop of blood appeared to have been recently extravasated into the lymph. The stage during which treatment could be expected to produce restoration of vision had evidently passed by.

Case XXI.—Acute iritis in a well-grown child—The subject of infantile syphilis.

M. L., aged 7 weeks, was admitted at the Moorfields Ophthalmic Hospital September 20, 1859. She was moderately well grown, and, though pallid, not by any means approaching the condition of syphilitic marasmus. Her nates,

arms, hands, and face, were however covered with patches of copper-tinted psoriasis of unmistakeable aspect. There was psoriasis plantaris, and the nails both of fingers and toes were all of them diseased, shrivelled, and in process of separation (syphilitic onychia). She had bad "snuffles." Her mother stated that when born the infant was fat and apparently healthy, and that she remained well until three weeks old, when the snuffles, eruption, etc., made their appearance.

The state of the eyes was such, that by a cursory examination the real nature of the disease might very easily have been overlooked. There was scarcely a trace of that zonular injection of the sclerotic which is so common a symptom of syphilitic iritis in the adult. It appeared that the child had been under mercurial treatment. The attack in the eyes had commenced ten days before, and, as the mother described it, "a circle had formed round the black spot of the eye." A Surgeon to whom she applied, ordered some powders to be taken night and morning. The left pupil had now cleared, but in the right some distinct specks of white lymph still remained. Both irides were muddy and deficient in brilliancy. There was no intolerance of light. Mr. Dixon ordered a quarter of a grain of calomel every night and morning. On September 24, the rash on the body was much better, and the lymph on the right pupil, with the exception of one little speck, was wholly absorbed. The calomel was now suspended, and the mild mercurial ointment was ordered to be used every night. On November 3, the note states that the eyes appeared to have wholly recovered. Atropine was used, and the pupils dilated fairly, without exhibiting any remains of adhesions.

Case XXII.—Effects of double iritis, with history of syphilitic symptoms, one pupil occluded—Disease of the vitreous body in the other eye.

Anne R., aged 2 years and 10 months was admitted under my care on August 20, 1860. Her mother stated

that the child was first noticed to be blind when five months old, but that no special attack of inflammation was ever observed, nor anything which directed attention to the eyes, excepting an eruption on the eyebrows. The mother had had no miscarriages; she lost one child older than the present patient at the age of two and a-half years, "from cutting her teeth." The present patient was the second. She was delicate from birth, and when a week old had "a rash all over." The rash only lasted a few days. Next it was supposed that her head was affected. A Medical man prescribed some grey ointment to be used on a rag applied to the thigh, but it was only used for one day. She was told that nothing could be done for the sight, and had therefore not applied at any Institution before. The following was the condition of the child's eyes, as noted on her admission.

Left Eye.—The pupil is almost closed by a dense white patch of lymph, from the centre of which rays extend to the iris in various directions. Only a very small aperture appears to exist in the upper and outer part. The pupil dilates a good deal with atropine, but is still occluded by adhesions.

Right Eye.—When the pupil is widely dilated by atropine, ophthalmoscopic examination shows a moving white membrane deep in the eye which often rises in front of the pupil. There are numerous floating hair-like bodies seen in the vitreous humour. The lens and cornea are clear. Both irides are steel-grey and thinned.

In this case the infant appeared to retain only perception of large objects, but it was difficult to estimate accurately her degree of vision. No direct questions were asked of the mother, but from the child's appearance and from the symptoms which had previously occurred there could be no doubt as to the diagnosis of hereditary syphilis. The condition of the vitreous in the right globe exactly resembled what I have repeatedly seen in cases of deep-seated inflammation of the eye consequent upon the acquired syphilis of adults.

Case XXIII.—Iritis of both eyes in an infant—History of syphilis in its mother.

My friend Mr. S. W. North, of York, has mentioned to me the particulars of a case of infantile iritis recently under his care. The infant was a girl aged 7 weeks. Her mother had been treated for syphilis by Mr. North, and had subsequently given birth to several dead born children. The subject of the case was her only living child. The iritis was severe in the left eye, but the pupil of the other was irregular, no doubt from the effects of inflammation which had passed off. The child suffered at the time from snuffles and a characteristic eruption on the nates.

Summary of the Twenty-three Cases.

1. *Age.*—The average age of the patients at the time the iritis commenced was five months and a half. The oldest was sixteen months at the time of the outbreak (Case 14), the youngest six weeks (Cases 21 and 22).

2. *Sex.*—Five of the infants were males and sixteen females; the sex of the remaining two is not specified.

3. *Eye attacked.*—In Cases 3 and 4 there is no statement as to which eye suffered, but in both it was one only. Of the others, both eyes were affected in eleven, the right alone in seven, and the left alone in three. We have, therefore, twelve cases in which but one and eleven in which both suffered. It is quite possible, however, that in some of the cases recorded as single, a transitory inflammation of the other eye had occurred before the patient came under observation.

4. *Phenomena of the attack—a. Congestion of tunics, etc.*—The pink zone of sclerotic congestion appears to have been well marked in only two instances; in ten others it was present, but only faint and ill-characterised: in two cases no note on this point is recorded, and in one it is expressly stated that, during the acute stage of the iritis, there was no increased vascularity of the tunics. In seven cases the acute stage had

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wholly subsided when the patient came under observation. In but three cases does it appear that any redness of the eyelids was noticed. *b. Effusion of lymph.*—If in those cases seen late, or in which the pupil was wholly occluded, it is fair to assume that there had been free effusion; we have fifteen cases in which the pouring out of lymph may be said to have been copious. Of the others, in four it was moderate, in three the iris was merely tumid and discoloured, whilst in one we have no note as to its state. *c. Keratitic complication.*—In one case the cornea is described as "hazy;" in one it ulcerated without any diffused haziness; in one it became prominent without haziness; and in one lymph effused into the anterior chamber became adherent to its posterior surface, its proper structure being unimpaired. In all the other cases (fifteen eyes) the cornea remained perfectly clear throughout the attack. In one case Mr. Moon's notes state that slight hypopyon occurred.

5. *Result to the organ.*—In seven cases (ten eyes) the cure may be said to have been complete, every trace of lymph having been removed; in two or three other cases it was complete, excepting that slender adhesions remained. In three cases (four eyes) the result is not known. In twelve cases one pupil was permanently occluded by organized false membrane. In nearly the whole of the last cases, in which the effusion was never absorbed, the patients came under care only at a late period of the disease, after the lymph had become organised and but very little chance of its removal remained. To Cases 7 and 13, I may point as interesting illustrations of the efficiency of mercurials in procuring the removal of lymph which already appeared to be vascular, and the absorption of which was by no means expected.

6. *Other symptoms of syphilis present at the time of the iritis.*—In several of the cases the account of coexistent symptoms is either wholly wanting or very imperfect. The specific cachexia is stated to have been present in twelve instances, and its having been absent is specially noted in five. Psoriasis of the general surface was present in ten instances;

TABULAR STATEMENT OF TWENTY-THREE

No.	Name, Hospital, Surgeon, etc.	Age.	Parents' History.	Interval between Pr. Syph. in Parents and Birth of Child.	Which Eye Affected.
1	Jane M.; Mr. Lawrence.	16 months	The mother had contracted syphilis three months before her confinement	3 months	The left only
2	Sex not stated; Maunsell and Evanson.	11 months	Its father had at the time a tubercular syphilitic	Probably short	In one eye only
3	"A child;" Dr. Jacob.	A few months	No details	No details	No note
4	Mary O.; Mr. Walker.	5 months	No details	No details	The right only
5	Mary Ann W.; the Ophthalmic Hospital.	9 weeks	Both parents denied having had syphilis	Not known	Both eyes
6	William J. J.; the Ophthalmic Hospital.	4 months	The mother had had sores, followed by rash, a few weeks before her confinement	2 months (?)	The right first; subsequently the left
7	Harriet H.; the Hospital for Diseases of the Skin.	8 months	Mother covered with a secondary syphilitic rash. Child illegitimate and first-born	A few months	The right first, and two months later the later
8	Emily C.; St. Bartholomew's.	3 months	The mother denied all history, father not seen	Not known	The left only
9	Christopher T.; Hospital for Diseases of the Skin.	8 months	Mother under treatment for a syphilitic rash. A first-born child	A few months	One eye only
10	Sarah P.; St. Bartholomew's.	5 months	The mother had lost five infants with suspicious symptoms, and this was her only living child	Not known (probably six years)	The right only
11	Alice K. C.; the Ophthalmic Hospital.	2 months	Her mother had borne 8, 6 of whom were still-born, and one died with suspicious symptoms. The patient was the only living one	Not known (probably seven or eight years)	Both
12	Anna L.; the Ophthalmic Hospital.	3 months	Two previous infants had died; the mother showed suspicious sores at the angles of the mouth	Not known (probably two or three years)	Right eye only
13	Emily W.; the Ophthalmic Hospital.	10 months	All history denied; but four infants had died with suspicious symptoms	Not known (probably several years)	Right eye
14	A girl; St. Bartholomew's.	16 months	The mother confessed to having had syphilis	Probably only a few months, but uncertain	Left first; the right eight months afterwards
15	James C.; Ophthalmic Hospital.	2 months	No notes	Not known	Both
16	Wm. John J.; Ophthalmic Hospital.	9 weeks	Mother suffering from suspicious symptoms, but not aware of primary sores	Not known (probably a few months)	Left only
17	James W.; Ophthalmic Hospital. (Mr. Moon's notes.)	14 months	Father known to have had syphilis	Not known	Both
18	A girl; the Ophthalmic Hospital.	4 months	Both parents had had syphilis	11 months.	Both
19	A girl; the Ophthalmic Hospital.	7 months	Both parents had suffered from primary syphilis four months before the infant's birth	4 months	Right only
20	Emma D.; the Ophthalmic Hospital.	4 months	The father had had syphilis fourteen months before the infant's birth	14 months	Right only
21	Mary L.; the Ophthalmic Hospital.	7 weeks	No notes	Not known	Both
22	Annie R.; the Ophthalmic Hospital.	6 weeks	None obtained	Not known	Both
23	A girl under the care of Mr. S. W. North, of York.	7 weeks	Mother had had syphilis	Some years	Both

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CASES OF IRRITIS IN SYPHILITIC INFANTS.

Symptoms present at the time in the Infant.	Treatment and Result.	REMARKS.	No.
Vaginal discharge and condylomata at the anus	Complete recovery of the eye under mercurial treatment	The first recorded case of infantile iritis.	1
No details given	No details given	This appears to have been the only example of infantile iritis witnessed by the authors quoted.	2
No details. The child had unmistakeable symptoms when under notice	No treatment had been adopted, and the pupil was closed by adhesion	Dr. Jacob did not see the patient until three years after the attack.	3
A copper-coloured rash, of four months' duration	Both rash and iritis were cured by mercurial treatment	Mr. Walker states that he had seen several, but this is the only case of which he gives details.	4
Scaly, copper-coloured eruption; loss of eyelashes; peeling of cuticle; sore mouth	Under the use of mercurials every trace of the effused lymph was removed from both eyes	The treatment was not commenced until the disease had existed three weeks.	5
A dusky, red eruption	Under mercurial treatment the left eye wholly cleared; the pupil of the right was left occluded	In this case the child was at the date of the iritis "healthy-looking, well-grown, and lively."	6
Emaciation; cachexia; ulcerated condylomata	Complete recovery of both eyes under mercurial treatment, continued for several months	...	7
Snuffles; emaciation; sore mouth; syphilitic psoriasis	The patient was lost sight of before the case was complete	...	8
Had been attending for 4 months on account of a syphilitic rash, which was disappearing	The iris cleared perfectly under mercurial treatment	Previous mercurial treatment did not prevent the iritis.	9
Syphilitic psoriasis; condylomata; emaciation	The pupil was wholly occluded; no treatment had been adopted for three months	...	10
Emaciation and cachexia; syphilitic psoriasis; tinea tarsi; psoriasis palmaris	The result was not known, owing to the patient's irregularity of attendance	...	11
Cachexia and emaciation; fissures at oral angles; psoriasis of arms and hands	Mercurial treatment; no record of result	...	12
Emaciation and cachexia; had had sore mouth and anus	The pupil was occluded by dense yellow lymph, of two months' duration, when the mercurial treatment was begun; great improvement followed	It was intended to perform an operation for artificial pupil at some future time.	13
No details	The lymph which had been abundant, was absorbed under mercurial treatment, but left the left pupil closed	...	14
Snuffles; scaly rash; ulcers at anus	The right eye recovered under mercurial treatment, but the left pupil was occluded	...	15
Snuffles; ulcerated condylomata at anus; syphilitic eczema	Recovered under mercurial treatment	...	16
Cachexia; an eruption	The right eye improved under mercurial treatment, but the left had probably been disorganized	In the right eye there appeared to be deep-seated effusion of lymph, probably choroidal.	17
Condylomata at anus	Both pupils were almost closed by iritis, which had occurred two months before, and had not been treated	The child looked as if in excellent health.	18
Cachexia and emaciation; hydrocephalus; snuffles	The right pupil was closed by red organised lymph	...	19
Snuffles; sore tongue; copper-coloured psoriasis; psoriasis at anus	The inflammation had not been treated, and the pupil was wholly closed	...	20
Copper-tinted psoriasis; snuffles; separation of the nails	Mercurial treatment was early adopted, and both eyes perfectly recovered	In this instance the child was well-grown.	21
A rash treated by mercury	The attack had long passed leaving the left pupil closed, and right vitreous body much disorganized	The child did not come under observation until two years after the iritis.	22
Snuffles and rash	Treated by mercury with great benefit	...	

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a papular rash in two ; psoriasis palmaris in one ; erythema marginatum in two ; and "peeling of the skin" in one. In one mucous ophthalmia attended the iritis ; in one the eye-lashes had all fallen out, and in one the lids were affected by tinea tarsi. "Snuffles" in the nose existed as a marked symptom in eleven cases ; in four there were aphthæ or other sores in the mouth ; in five soft condylomata around the anus were present, and vaginal discharge in one. In two cases (5 and 15) the notes show, that although from the history there could be no doubt as to the diagnosis, yet that no specific symptoms existed in the infant at the time of the iritic outbreak.

7. Length of period which had elapsed between the date of the primary disease in the contaminating parent and the birth of the infected child.—Our data on this point are far from being complete. Indeed from the very nature of the inquiry it is impossible that they should. It is, however, of too much importance to be avoided altogether. In one instance the mother had, it appeared, had primary syphilis only three months before the infant's birth, and in another the period was four, and in a third, six months. In five cases it seemed probable that a period somewhat less than a year had elapsed, whilst in five it had been at least two years. In two, judging by the fact that the mother had borne a number of children, some of whom had showed suspicious symptoms, the date of the original disease in the father could not be placed nearer than six or seven years. Of the twelve cases in which alone a history of the family is recorded, we find that the affected infant was the only living child of his parents in thirteen instances. In four, it was the result of its mother's first conception ; in four, miscarriages only had preceded its birth, and in four other cases (2, 5, 7, and 23), previous conceptions had terminated either in abortions, or in the birth of children who had died of syphilis. In the only case in the whole series in which it is stated that there were other living children the mother had lost four infants out of seven live births.

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These facts, although confessedly meagre, seem to point to the conclusion that the occurrence of syphilitic iritis in an infant indicates the existence in its parents of a form of the diathesis very fatal to the life of their offspring.

8. *Infrequency of this kind of Iritis.*—Respecting the frequency of iritis in infants, there can be no difficulty in admitting that it is amongst the rarest of the symptoms of hereditary syphilis. I am sure, however, that it often escapes notice. The absence of the sclerotic zone, and the very small amount of local symptoms which it causes, taken with the fact that young infants usually keep their eyes shut, will account for this. In proof of it, I may mention that, in 1852, I showed to a friend of mine, who had then for fifteen years held a Hospital appointment, which brought under his notice vast numbers of the poor, the first case of syphilitic iritis in an infant which he had seen. The disease was new to him, and he was much interested in it. Since then he has had, in exactly the same field of observation, no fewer than five cases. Yet in proof, that, however carefully looked for, it is really very rare, I may mention, that during seven years' practice at the Metropolitan Free Hospital I have never treated a single case in connexion with that Institution, although numbers of congenito-syphilitic patients present themselves, and I have scrupulously looked at the eyes in all.

DIAGNOSIS, TREATMENT, AND PROGNOSIS.

On account of the very slight symptoms which often attend it, iritis in the infant is very liable to be overlooked. Its diagnosis however, when once attention has been called to the little patient's eyes can scarcely be considered difficult. In two cases however, I have known considerable difference of opinion to prevail as to its existence. These were cases in which the iris was simply tumid and discoloured, in which no perceptible masses of lymph had been effused, and no congestion of the sclerotic vessels existed. In each instance by the use of atropine I was enabled to demonstrate great

irregularity of the pupil, and thus to remove the doubts of those who had at first hesitated to concur in my diagnosis. In like cases the employment of the solution of atropine should always be resorted to. It will also often be necessary in young infants to use a spring speculum to keep the lids open in order to procure a satisfactory inspection. Irregularity of the pupil, the presence of white, yellow, or red lymph, tumidity, loss of lustre, and alteration of colour in the iris itself are the symptoms upon which the diagnosis is to be based. Generally also there will be seen on minute inspection a faint pink zone in the sclerotic. There is very rarely much congestion of the conjunctiva and the cornea is almost always clear.

The measures of treatment are simple. The daily use of atropine drops* to dilate if possible the pupil, and the rapid exhibition of mercurials are the two all important measures. I usually employ the mild mercurial ointment, directing it to be rubbed into the soles of the feet, nape of neck, and calves of legs, about a scruple being employed daily. The infant's general health should be carefully watched and instructions given as to a proper dietary. Syphilitic infants need animal food in the form of broths, beef tea, etc., at an earlier age than others. If there be diarrhoea, or if the mercurial induce it, a carminative draught containing opium may be given, but the mercurial must not be laid aside whilst any lymph is present in the pupil, unless the child's state should absolutely necessitate it. In these cases, however, mercury almost always agrees well and the infant gains flesh under its use.

The prognosis of these cases depends upon the stage at which they come under treatment. If the lymph is recent, however free its effusion may have been, absorption may be confidently expected under the mercurial treatment. If indeed it be of some weeks' duration, and already organized, mercury will yet in some cases effect wonders, and in almost

* One grain of sulphate of atropine to an ounce of distilled water.

all it is worth while to give it a fair trial. A cautious opinion must always be given as to the restoration of the child's sight, since it is very possible that disease of the vitreous or retina may co-exist. In cases in which the pupil has been excluded and no hope of improvement by constitutional treatment remains, much may yet be done by the instrumental removal of the false membrane.

I have but limited faith in mercurial treatment as prophylactic either against this or any other of the phenomena of infantile syphilis. A great point will, however, have been gained if the attention of the profession generally is directed to the occasional occurrence of this insidious affection, and to the efficiency of mercury in its cure.

APHORISMS RESPECTING IRRITIS IN INFANTS.

1. The subjects of infantile iritis are much more frequently of the female than the male sex.
2. The age of five months is the period of life at or about which syphilitic infants are most liable to suffer from iritis.
3. Syphilitic iritis in infants is often symmetrical, but quite as frequently not so.
4. Iritis, as it occurs in infants, is seldom complicated, and is attended by but few of the more severe symptoms which characterise the disease in the adult.
5. Notwithstanding the ill-characterised phenomena of acute inflammation, the effusion of lymph is usually very free, and the danger of occlusion of the pupil great.
6. Mercurial treatment is most signally efficacious in curing the disease, and, if recent, in procuring the complete absorption of the effused lymph.
7. Mercurial treatment previously adopted does not prevent the occurrence of this form of iritis.*

* In many of the cases the patients had previously been treated by mercury for other symptoms of hereditary syphilis. In one instance the second eye was attacked while the patient was taking mercury for the cure of iritis in that first affected. This I have known occur more than once in adults. In the latter, in five instances I have seen acute syphilitic iritis set in during actual ptyalism.

8. The subjects of infantile iritis, though often puny and cachectic, are also often apparently in good condition.*
9. Infants suffering from iritis almost always show one or other of the well-recognised symptoms of hereditary taint.
10. Most of those who suffer from syphilitic iris are infants born within a short period of the date of the primary disease in their parents.

CHAPTER II.

CHRONIC INTERSTITIAL KERATITIS.

THIS form of keratitis, respecting which I hope to be able to sustain the proposition that it is almost always a direct result of inherited syphilis is a well-marked disease, the individuality of which has long been recognised. In Dr. Mackenzie's excellent work he devotes a section to it under the name of "Scrofulous Corneitis," and states that "it is specifically different from every other ophthalmia." Dr. Jacob, in his "Inflammations of the Eyeball," gives a description of it which, as with all that comes from his pen, bears the stamp of careful observation; and more recently, Mr. Dixon, in his work on "Diseases of the Eye," and Mr. Critchett, in his published Clinical Lectures, have devoted special attention to it. The manner in which, by interstitial deposit, the cornea is made to assume the appearance of ground glass; the absence of ulceration, and of any tendency to pustules; the comparatively small amount of sclerotic or conjunctival congestion;—are facts in its history as to which all observers agree. Nor is the testimony of writers much less unanimous as to its being hardly ever met with except between

* The more ill-nourished of the subjects of hereditary syphilis are certainly not those most prone to iritis. In several of the cases given, the patients, despite the presence of indubitable indications of hereditary taint, were in remarkably good condition. The puny class of syphilitic infants, are those in whom the disease falls with its chief stress on the organs of assimilation, on the mucous surfaces, or very severely on the skin.

the ages of five and eighteen,—as to its almost invariably affecting first one eye and then the other,—as to its being usually of very slow progress,—or, lastly, as to the fact that the ultimate result is almost always very much better than could have been hoped for, judging from the condition of the cornea in its early stages. I may here premise that to those whose field of observation does not include an ophthalmic hospital it is a very rare disease. As some gauge of its infrequency, I may mention that at the Metropolitan Free Hospital, where the average daily admission of new surgical cases is between twenty and thirty, I have not had to treat more than one case a year.

The description of the class of patients in whom this disease usually presents itself is given by Dr. Mackenzie in terms which, whilst they bear evidence to the closeness of the clinical observation from which he wrote, are also of very great value to my argument, as being the testimony of one who had no theory to support. He writes,—“The subjects of scrofulous corneitis are in general from eight to eighteen years of age; and in the female the complaint frequently appears in connexion with amenorrhœa. In the female as well as the male, the skin of those affected with corneitis is peculiarly coarse and flabby, with the sebaceous follicles of the face much developed, and I have in many instances observed it coincident with a peculiar hoarseness of voice. Other scrofulous symptoms are generally present, especially swollen lymphatic glands under the jaw, and nodes on the tibia.” Having made so accurate a generalisation of its diathetic concomitants, Dr. Mackenzie has evidently approached very closely to the discovery of the real nature of this peculiar form of ophthalmia, and one cannot but feel surprised that he should have missed its explanation. I will not make so sweeping an assertion as that interstitial keratitis of typical form never occurs but in the subjects of inherited taint, yet I cannot conceal from myself, and have no wish to do so from my reader, that such is my present belief. I have proved it now in so many

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cases to the full satisfaction of much more able observers than myself, and have waited so long without either finding myself, or being shewn by others an instance in which no grounds for such a diagnosis existed, that the attitude which my mind has involuntarily assumed is as just stated. It seems, moreover, improbable that a disease, very peculiar in its features, differing greatly from all its congeners, both in its symptoms and its progress, should acknowledge a specific cause in nineteen instances, and in the twentieth present precisely the same phenomena in total independence of such origin. It is only fair that I should ask of those who are inclined to test the accuracy of this opinion that care be taken in the diagnosis. Only typical cases of chronic diffuse keratitis must be chosen, for although the affection is unmistakeable to the practised observer in a great majority of instances, yet it has like all other diseases a border ground on which errors may easily be committed. In certain cases of diffuse corneal inflammation occurring as a sequel to small pox or some other of the exanthems, I have observed a combination of symptoms more or less closely simulating that presented by some of the less characteristic examples of the disease in question. I have never, however, in any such instance, witnessed a simulation of the typical and more common form of the latter.

As I have done in the case of Infantile Iritis, I shall append to the series of cases which is to follow a statement of the numerical frequency with which the different phenomena of this disease were actually present. I shall also attempt to elucidate in the same manner several other facts respecting its progress and events. It will be convenient, however, here to introduce a brief enumeration of its symptoms, etc.

Chronic Interstitial Keratitis usually commences as a diffuse haziness near the centre of the cornea of one eye. There is at this stage no ulceration and exceedingly slight evidence of the congestion of any tunic. The patient, however, almost always complains of some irritability of the eye, as well

as of dim sight. If looked at carefully, the dots of haze are seen to be in the structure of the cornea itself, and not on either surface; they are also separate from each other like so many microscopic masses of fog. In the course of a few weeks, or it may be more rapidly, the whole cornea, excepting a band near its margin, has become densely opaque by the spreading and confluence of these interstitial opacities. Still, however, the greater density of certain parts,—centres, as it were, of the disease,—is clearly perceptible. Early in this stage, the comparison to ground-glass is appropriate. There is now almost always a zone of sclerotic congestion, and more or less intolerance of light with pain around the orbit. After from one to two months, the other cornea is attacked and goes through the same stages, but rather faster than the first. A period in which the patient is so far blind that there is but bare perception of light now often follows, after which the eye first affected begins to clear. In the course of a year or eighteen months a very surprising degree of improvement has probably taken place. In milder cases, and under suitable treatment, the duration may be much less than this and the restoration to transparency complete, but in many instances patches of haze remain for years, if not for life. In the worst stage, the corneal surface looks slightly granular and from the very beginning it has lost its polish, and does not reflect images with definite outlines. In certain cases after the ground-glass stage is passed, a yet more severe one ensues, in which the whole structure of the cornea becomes pink or salmon-coloured from vascularity, and in these, crescentic fringes of vessels are often noticed at its circumference. In the best recoveries the eye usually remains somewhat damaged as to vision, and often a degree of abnormal expansion of the cornea is apparent. Only in one or two cases have I ever observed ulcers of distinguishable size on the surface of the cornea, and I have scarcely ever seen pustules on any part of it.

My reasons for believing that this disease is dependent upon an inherited syphilitic taint are the following:—

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1. That in certain instances patients whom I knew before-hand to be the subjects of inherited disease have, whilst under my observation, been attacked by it.
2. That in a large number of other cases I have obtained from the parents of the patient a free confession as regards themselves and a distinct history of specific symptoms in the child during infancy.
3. That in almost all cases the subjects of it present a *very peculiar physiognomy*, of which a coarse flabby skin, pits and scars on the face and forehead, cicatrices of old fissures at the angles of the mouth, a sunken bridge to the nose, and a set of permanent teeth peculiar for their smallness, bad colour, and the *vertically notched edges of the central upper incisors*, are the most striking characters.
4. That in many cases one or more of the following suspicious forms of disease have either been coincident with it, or have occurred previously:—ulcerative lupus, nodes on the long bones, psoriasis on the face, otorrhœa, chronic enlargement and subsequent atrophy of the tonsils, ulcers in the throat, a thickened condition of the parts under the tongue, and chronic engorgements of the lymphatic glands.*
5. That the effect of specific treatment in mitigating the severity of these inflammations, and in shortening their duration, is sometimes very marked, whilst mere tonic and dietetic plans are of comparatively little avail.
6. That it is often either accompanied or preceded by iritis.†
7. That it is often followed by certain changes in the choroid which are frequently seen in heredito-syphilitic patients.

* For a more full account of the symptoms upon which, in the child or young adult, a diagnosis of hereditary syphilis may be based, the reader is referred to a paper by the writer in the "Medical Times and Gazette" for September, 1858. A yet more detailed description of the condition of the teeth in these patients is given in the "Transactions of the Pathological Society," for 1858 and 1859. An abstract of the latter Reports, is printed as an appendix to the present volume.

† Cases in which iritis formed the principal symptom, and in which the cornea never became so opaque as to prevent examination of the inflamed iris will be reserved for a subsequent group. These are examples of what is described in books under the names of aquo-capsulitis, corneo-iritis, etc.

Case 1.—Double keratitis of a month's duration—Inconclusive but very suspicious history—Suspicious physiognomy—Good result from specific treatment.

William Lewis F., aged 4, brought from a village in Essex to the Ophthalmic Hospital, on account of double keratitis. Both corneaæ diffusely hazy, and of white ground-glass appearance. The disease commenced about six weeks ago, and he is now so nearly blind as to be obliged to feel his way about the room. The intolerance of light is great, and there is considerable sclerotic congestion. He is a stout boy, well grown for his age, but of decidedly "strumous" aspect. Lips thick, bridge of nose flat, teeth (first set) small, very much decayed and broken, and very irregularly placed. There are deep scars at the angles of the mouth, the result of ulcerations, which his mother states he had when an infant.

His mother says that out of eleven births she has seven living children. Her first five all lived, the next four all died; the tenth is the patient, and the eleventh is alive and reported healthy. The patient was quite healthy until six weeks old, when he was vaccinated. The vaccination did not take, but subsequently a rash came out on the face, about the mouth, and on the buttocks. The skin peeled off, and there were small sores. This rash lasted more than a month, and the medical man who attended ordered "grey powders," of which upwards of thirty were given. When nine months old, a large abscess formed in the back and broke, and about this time many small ulcers appeared on his scrotum and thighs. On the question being put, his mother positively denies having ever had any venereal disease, but she admits that the medical man who prescribed for the boy in infancy asked the same question, and insisted that such must have been the case.

I prescribed inunction with the mild mercurial ointment. The first attendance was on June 4th. On June 18th the state of the eyes was but little improved, and I thought

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that too little of the ointment had been used. Ordered to rub in more freely, and take three times a day two grains of iodide of potassium. On July 2nd, the note states, "The intolerance of light has almost disappeared. He can see fairly, and the corneæ are rapidly clearing."

Case II.—Remains of double keratitis of very long standing—Diathesis and physiognomy well marked—No history of infantile symptoms—Parents known to have had syphilis.

Emma Jane R., aged 14, admitted on account of slight general haziness of both corneæ, the result of inflammation, which, from her mother's account, began at the age of two years, and has continued, with intervals of improvement and relapse, ever since. Irides, as far as can be ascertained, not affected. Complexion bad, nose sunken, scars at angles of mouth, teeth dwarfed, discoloured, and much notched. Her mother acknowledges to having contracted sores from her husband, soon after marriage, for which she was for a considerable time under medical care. She denies, however, that the child had any suspicious symptoms in infancy. She has borne ten children, six of whom are living, the patient being the eldest.

On an old hospital letter, which this patient brought with her, the diagnosis of "strumous cornitis" had been written by the surgeon who then attended her. The subject of the next case was her sister.

Case III.—Remains of double chronic keratitis of a year's duration—Diathesis imperfectly marked—No history of infantile symptoms—Parents known to have had syphilis.

Alice R., aged 12, sister of Emma Jane R., whose case is above. Haziness of both corneæ: diffused and exactly resembling that left by chronic keratitis. It began a year ago. There is psoriasis in the face, slight scars at the angles of mouth, and the bridge of the nose is much sunken. Teeth

good, but peculiarly squared at the tops by wearing down. No symptoms in infancy recollect. Her mother had syphilis soon after marriage. It is interesting to observe that the diathesis is less marked in the younger child than in her sister.

Case IV.—Results of chronic keratitis—Syphilitic tinea tarsi—History of syphilitic symptoms in infancy—Mother the subject of suspicious symptoms.

Sarah Lucy C., aged 12, admitted in November, 1856. Both eyes presented a leaden haziness of the corneæ and vision was very imperfect. Her physiognomy was markedly that of hereditary syphilis, and there were scars of former eruptions. The irides were not easily seen, but appeared thin and discoloured. The lids were all of them affected by severe, chronic, tinea tarsi, and their lashes destroyed.

History.—She is the second of six children. Healthy up to the age of four months, when she had what her mother believes was scarlatina, on which followed severe snuffles, an eruption over the face, head, nates, and feet, and inflammation of the eyes. The eruption lasted some months, and neither the snuffles nor the inflammation of the eyes have ever since been absent. Subsequent to this and frequently since she has had troublesome sores at the corners of the lips and in the mouth. She has also had sore throat, and for long has been very deaf. Never had periosteal pains. During sleep she has for a long time made a disagreeable noise in breathing. Her eldest brother died of scarlatina, aged four, and three sisters are living and are said to be healthy. Her father is reported to be a healthy man. Her mother is aged forty, and has now an eruption of suspicious appearance about the forehead and face, which has produced numerous small scars. There is a scar on the scalp, as if from an ulcerated node, and a second large one on the left temple, produced, she says, by the application of caustics to "destroy a tumour" four years ago. This tumour had formed

during pregnancy, and had been painful at night. The scar has remained quite sound. She is liable to sore throats in winter, and suffers from very profuse leucorrhœa. Her health, on the whole, has not been so good since, as it was before, marriage, but she is not markedly cachectic. (No direct questions were asked in this case.)

Case V.—Chronic syphilitic inflammation of the eyes, commencing at the age of six weeks—Syphilitic tinea tarsi—Characteristic physiognomy—Imperfect history.

William E., aged 14, the second child of a farm labourer in Cambridgeshire, (admitted in November, 1856.) He is a fairly grown boy, but ill proportioned and of misshapen head. His face presents the peculiar appearance described above as characteristic of hereditary syphilis, the bridge of his nose being low, expanded, and turned on one side; on one cheek is a patch of psoriasis, and the integument generally is dry-looking, puckered, and marked in lines about the mouth and nostrils, and with small pits of some former eruption near the ears. His hair is thin and dry, and his physiognomy is further rendered peculiar by the frown acquired by having long suffered from intolerance of light.

Condition of the eyes.—He can only just see with sufficient distinctness to distinguish persons, and this is with the right alone, the left being capable only of perceiving light. The lids of both are tumid and corrugated, all the lashes in both lower lids being wanting, and those of the upper ones broken and irregular, and turned in upon the globe. The cornea of the *left* eye is so opaque that the pupil cannot be well seen. It has lost its prominence, and is flattened, the opacity appearing to involve its whole thickness, and to be connected with a mass of coloured lymph in the lower part of the anterior chamber. The iris, where seen, appears to be thin, and of a dull slate colour. The pupil does not perceptibly dilate with atropine, and it is doubtful, indeed,

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whether one exist or not. The sclerotic is discoloured by long congestion, and the conjunctiva is somewhat thickened by the rubbing of the inverted upper lid. The cornea of the *right* eye is hazy in all parts, but most so in its lower half. The iris, as seen through this hazy medium, is a dull slate gray, and looks as if thinned. The pupil dilates fairly under atropine, and if any adhesions exist they are very minute. The capacity of the anterior chamber appears increased by pushing back of the iris. The sclerotic is discoloured. Both eyes are intolerant of light, and run with tears when exposed to a strong one. Mr. Critchett removed the cilia of both upper lids by dissecting out their roots, and during the ten days afterwards that the boy remained under observation, the irritation of the eyes much subsided in consequence.

History.—Both parents are said to be ailing, his father often suffering from "rheumatism." He has four sisters, one of whom has weak eyes. He was himself a puny child, and did not run alone till five years old. When aged six weeks his eyes began to inflame, in consequence, as was believed, of having caught cold, and from that time to the present he has never been able to see well. He describes attacks during which there has been much pain and intolerance of light. Three months ago he had sore throat, but there has never been any ulceration of the pharynx or palate. (No opportunity occurred for asking direct questions of his parents.)

Case VI.—Acute and very severe double keratitis—Probable recovery of one eye under mercurial treatment—Characteristic physiognomy and teeth—History inconclusive.

Mary Ann W., aged 18, a well grown girl, who had enjoyed sufficiently good health to be out at service until her eyes inflamed. When admitted, the keratitis had existed only a month, but was very severe. Dr. Bader diagnosed the disease as syphilitic, and prescribed the bichloride of mercury, in doses of one-fifteenth of a grain, three times

daily. This was on June 12th, and on August 23rd, when I saw her, great improvement had, I was informed, taken place. The right cornea was much the more opaque, and behind it were what appeared to be large masses of organised lymph, by which the iris was wholly concealed. Vision was quite lost in this eye. In the left there was diffused haziness of the corneal structure, but the iris was healthy, and there was no lymph in the anterior chamber. The stage of vascular congestion had pretty much passed off in both, and in the left the sight was already much improving.

The girl's physiognomy and teeth were characteristic. I had a portrait taken, showing the latter, as they were quite typical. Her mother denied any history of syphilis, but she had borne ten children, of whom eight had died in early infancy.

* *Case VII.—Double keratitis with large lacrymal abscess—Teeth and physiognomy characteristic—History suspicious but inconclusive.*

Mary Ann D., aged 11, admitted with double keratitis in an early stage, and with abscess in the left lacrymal sac. In the posterior layer of each cornea were numerous minute punctate deposits of lymph, very closely resembling those so frequently seen in cases of syphilitic iritis in adults. There was slight swelling of both knee joints. The abscess in the sac was laid open, and mercurial treatment prescribed.

She was a poor miserable-looking child, of bad pale complexion. There were scars at the angles of the mouth, the bridge of the nose was sunken, and the teeth were most characteristically dwarfed and notched. Her mother stated that when an infant she was puny and excessively restless, and that she had "snuffles" and "thrush," both badly. She was for a long time under medical care, but did not, as far as I could make out, ever take mercury. Subsequently, she had discharge from both ears, which left deafness. Two

months ago she was under Mr. Lawrence, in St. Bartholomew's, for pains in the bones and failure of sight. She was liable to severe headaches, and occasionally to epileptiform attacks.

No direct questions were asked of her mother. The patient was her second child, and she had borne four, of whom the first and fourth had been stillborn. A very singular circumstance had occurred in this child's dentition. Her mother stated that the first set of teeth had all fallen out by the time she was three years old, and that for three years subsequently she was wholly toothless.

Cases VIII. and IX.—Two sisters presenting the syphilitic physiognomy and teeth—History of bygone keratitis in both.

Elizabeth D., aged 16, the elder of two sisters attending the Ophthalmic Hospital on account of imperfect sight after a long attack of inflammation. Her physiognomy was most marked, and her teeth exceedingly well characterized. The lower teeth were narrow and peggy, the upper ones narrow and deeply notched. She came complaining of short and weak sight, and stated that it had resulted from a long attack of inflammation of the eyes, which she had suffered some years before. I could not obtain any positive evidence as to this ophthalmia, but her account of it corresponded exactly with that of an attack of double keratitis. Both corneæ had, however, cleared, but they retained a certain peculiar appearance of thinning which confirmed my opinion.

In Sarah Jane D., the younger sister (aged 5), both physiognomy and teeth were marked, though not nearly so characteristically as in the elder sister. Her left cornea was hazy, and was stated to have been inflamed, on an off, for two years back. I could not see their mother, or obtain any history further than that three had died out of a family of seven.

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Case X.—Double keratitis—Partial recovery under tonic treatment—Relapse—physiognomy and teeth characteristic—History inconclusive.

John S., aged 11. His mother has had eleven children born alive, of whom but three are living. He is the eldest of those alive. His father has lost an eye from inflammation. His parents live in the country, and cannot be seen.

His complexion and teeth are most marked. There are numerous scars about the face, and fissures at the angles of the mouth. The teeth are peggy, not very small, but notched. On the front of the left tibia is a large diffuse osseous node, in which he has had much pain. The tonsils are atrophied.

He was admitted first in November, 1857, and was treated by steel, blisters, etc., up to February 18th. Both eyes were then affected, but the left was the worse, and he was quite blind of it for a time. He recovered and ceased to attend. Both eyes are now (August, 1858) relapsed, and show a diffuse, ground-glass condition; no patches are present. He is stated to have "always been a delicate, ailing lad, and his next brother is so likewise."

The above notes were taken at his admission on the second occasion, August, 1858.

In reply to a letter of enquiry, his mother informed me—"when a baby, he had a slight sore bottom and mouth, which did not interfere with his health. His eyes were perfectly strong and bright until within a few days of his being brought to the hospital." He had never taken mercury as far as could be ascertained.

Case XI.—Double keratitis—Physiognomy not characteristic—Dwarfed lower jaw—Syphilitic teeth—History of syphilis in the father before marriage.

George P., aged 18, was brought up from the country by his father on Feb. 2nd, 1858. Both corneæ showed the

initial stage of keratitis being dotted with white specks of interstitial opacity ("ground-glass-condition"). The inflammation affected as yet only the central portions. There was not the slightest vascularity of the sclerotics or conjunctivæ, and very little intolerance of light or lacrymation. He was a pale complexioned lad, but well grown and intelligent. The syphilitic physiognomy was not at all marked ; the chief peculiarity in his face being constituted by an exceedingly small and under-hung lower jaw. (See portrait, in Hospital Museum, No. X.) His pale and delicate aspect, however, contrasted most markedly with that of his father, who was a florid, robust-looking man. His teeth were narrow, notched, and of bad colour. His father told me that he had married at the age of 18, and that a year before this he had contracted syphilis, on account of the secondary symptoms of which his medical attendant had insisted upon a delayal of his marriage six months after it had been arranged for. Since his marriage he had enjoyed excellent health, and his wife had not suffered in any way. The offspring of the marriage were—1st, a daughter, living and healthy ; 2nd, the patient ; 3rd, a girl, living, and subject to enlarged glands ; of the 4th, 5th, 6th, and 7th, two were stillborn, and two died in infancy : besides these several miscarriages had occurred.

This lad had two teeth when born which fell out before he was three months old. He was an eight months' infant, and was exceedingly delicate up to the age of seven years. He had a bad sore on one thumb (syph. onychia) in childhood, which was very troublesome for a long time. For two or three years his parents "had no hope of rearing him." The right eye inflamed first about ten months ago, and more recently the left.

The treatment prescribed consisted of the inunction of the mild mercurial ointment and the internal administration of iodide of potassium. These measures were steadily pursued, and on July 9th, the note states, "In the right eye the opacity is decidedly less, and he can see much better. The larger portion of the cornea in each eye is now beautifully clear."

Case XII.—Double and severe keratitis—Great benefit from mercurials four years after the commencement of the disease—Typical physiognomy and teeth—Conclusive history.

Emily K., aged 16, was admitted under Mr. Bowman's care with the results of double keratitis, which had existed for four years past. Her aspect was, perhaps, the most marked that I have ever seen. The bridge of the nose was flattened; there were large scars at the angles of the mouth; the skin was stretched-looking and thin; and the complexion was pale and earthy. (See portrait in Hospital Museum, No. XI.) The teeth were small and notched. Both corneaæ were very opaque; the deposits being dense and large. There was much irritability and some intolerance, with a sclerotic zone. It appeared that she had had good eyes until the age of eleven. The left eye inflamed first, and at one time she had been all but blind.

Whilst we were examining the case, her mother spontaneously stated to Mr. Bowman and myself that she considered it her duty to acquaint us that her husband had given her the venereal disease whilst she was pregnant with the patient, and that both herself and infant had suffered severely from it. The girl had always been ailing, and she had attributed her ill health to the cause mentioned.

Mr. Bowman admitted the girl as an in-patient (as she came from the country), and kindly transferred her to my care. I prescribed the iodides of potassium and iron, with inunction of the mild mercurial ointment. The latter she used rather too freely, and with the result of inducing at the end of a fortnight a slight ptyalism. The rapidity with which the corneaæ cleared whilst the gums were sore was surprising; the girl also gained flesh and a certain degree of colour. After leaving the Hospital she attended regularly for some months. When I last saw her, about six months after admission, the corneaæ were still hazy, but she was able to read small print, and to thread her needle.

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Case XIII.—Double keratitis, with adhesions of iris—History of syphilis in infancy—Syphilitic physiognomy.

Emma C., aged 6, a puny child, in whom the physiognomy of hereditary syphilis was moderately well marked. Her mother had borne six children, of whom but two were living, and there was the history that both the latter had in infancy suffered severely from sore mouth, snuffles, and eruptions on the face and buttocks. The patient was very ill during the whole period of infancy. The first inflammation of the eyes was at the age of one year. Both corneæ were extensively nebulous from the effects of long standing keratitis. The pupils were both of them irregular and partially occluded. She could just see to get about. Under treatment by iodides she improved greatly, and in two months was able to see large print. The eyes were, however, permanently much damaged.

Case XIV.—Hereditary syphilis with clear history—Supervention of keratitis after having been under treatment for other symptoms—Acute inflammation—Recovery under mercury and iodides.

Richard D., aged 16, first became my patient (at the Metropolitan Free Hospital) on March 12th, 1856; his complaint was a chronic abscess over the lower part of one arm. He was small in stature, of syphilitic physiognomy, but tolerably florid. In addition to the abscess in the arm, he had enlarged glands in the neck. There were pitted scars about the angles of his mouth and puckered depressions in the dorsum of the tongue. His incisor teeth were of nearly normal form but peculiarly transparent (like bad "size"). They had also large white spots of opacity in their structure. The canines, all of them, shewed small tubercles at their ends. He told me that his mother suffered much from "rheumatics in the head," but on my subsequently seeing her, I found that she had nodes on the ulna, humerus

and the frontal bone, and was the subject of tertiary syphilis in an aggravated form. She told me that, during her pregnancy with the subject of the case she had had a severe leucorrhœal discharge, and had lost her hair, and that immediately after her confinement a very bad eruption broke out attended by ulcerated sore throat. She had never since been well, and had been treated by many medical men for various affections which all had assured her were of venereal origin. Whilst an infant the boy himself had severe and protracted "snuffles," also ulcers in the mouth and at its angles, eruption on the buttocks, and sores at the anus. He had ever since been very ailing, and had had abscesses about the left elbow which had left it stiff. I treated him with iodides, and the ulcer on the arm soon healed; he improved very much in general health.

Here then we have a case in which beforehand not a shadow of doubt exists as to the patient being the subject of inherited syphilis.

On September 16th, of the same year, Richard D. applied to be readmitted on account of an attack of inflammation in the right eye which he attributed to his having worked all day over a hot brazier. He had taken, with some irregularity, an iodide mixture almost ever since his first attendance, but had now left it off for several weeks. His right eye showed commencing keratitis in an acute stage. The sclerotic was much congested, but chiefly in the outer side, and there was a well marked zone. The cornea was granular, but chiefly in its posterior layers. The iris was muddy, but not tumid, nor did it show any effused nodules of lymph. Some intolerance of light and some circum-orbital pain existed, but neither of them were severe. The inflammation had existed for a fortnight. The dose of iodide was increased in the former draught, and on the 22nd the condition of the eye was rather better. I then ordered the iodide in eight grain doses. From September 22nd he did not attend again till October 16th, and then came, begging that I would again order him his former medicine, as he

feared he had quite lost his sight. The whole of the cornea was now densely opaque and vascular, so that no part of the iris could be seen. There was great intolerance of light and lacrymation, and the sclerotic was much congested. I found that he had been attending at his master's wish at an ophthalmic hospital. The letter which he brought me showed that "strumous corneitis" had been the diagnosis of the surgeon whom he had there seen, and that tonics, cod-liver oil, and counter-irritants had been employed. I at once changed this plan, and reverted to the iodide draught (grs. viij), under which, at first, improvement had very satisfactorily set in. The intensity of the inflammation was, however, so great that the cornea was already bulging at its outer part, and I entertained great fear for the eye. On the 24th, however, great improvement had taken place, and I could just distinguish the iris at the upper and inner part. The left eye had been very irritable and somewhat congested, but the opacity of the cornea in it never advanced far.

On November 4th the note states that he could see to read with the left and that the right was still improving. The dose of the iodide was now increased to ten grains, and inunction of the mild mercurial ointment was also commenced.

On December 6th the note is, "Considerable but by no means rapid improvement. The left eye is now nearly well. With the right he can see the light, but the cornea is still quite opaque. It looks bulged and too prominent. Its discolouration is peculiar, not merely a ground-glass opacity, but of a bluish grey colour (leaden) with in some parts a purple tint. There is a well-marked sclerotic zone." The iodide, in reduced doses, was continued as well as the inunction.

On February 6th he could see to count fingers, and in the course of six months further the cornea had cleared sufficiently to allow him to read. Two years after the attack there was still a white opacity in the outer part of the cornea, but its centre was quite clear and the sight very fair.

This case is of importance not only because the diagnosis is beyond cavil, but on account of its illustrating the comparative uselessness of the remedies for "struma" and the efficiency of those for syphilis.

Case XV.—Double keratitis—Healthy physiognomy, but characteristic teeth—History of syphilis in the mother.

James D., aged 8, well grown, stout, and moderately florid, applied at the hospital on January 3rd, 1859. The physiognomy of hereditary syphilis was not at all characterized. His nose was small, and the face, where not florid, presented a peculiar faded yellow tinge which I have often before noticed under similar circumstances, but there was certainly nothing which would have excited attention. He was, however, the subject of double interstitial keratitis. On looking at his teeth, all doubt as to the real nature of the case was dispelled. The lower incisors, just cut, were large, but presented singularly irregular edges, being thin and unequally serrate. The upper incisors were all deeply notched. His mother told me that she had borne two children since his birth, and that both had been very delicate and had died under two years. The patient was her only living child, and during infancy he had been very ailing indeed. On the question being asked, she at once acknowledged that she had had the venereal disease. It was contracted, she said, from her first husband, who gave her it soon after marriage, and himself died within six months. During her years of widowhood she was an in-patient at the London Hospital for ulcers about the knees which were considered to be syphilitic. At length, believing herself cured, she married again, her second husband, whom she believed to be quite healthy, being the father of her children.

With regard to the keratitis in this case I have only to remark, that it was well characterized and of moderate severity. It had existed six weeks when I first prescribed for him, and was advancing. There was some sclerotic congestion and slight intolerance of light.

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The case is of much interest on account of the absence of the syphilitic physiognomy and the presence of the dental peculiarities: showing the especial value of the latter as aids in diagnosis. No doubt the boy's healthy aspect was due to his having had a healthy father.

Case XVI.—Interstitial keratitis in its initial stage—Notched incisors and other suspicious symptoms—Imperfect history.

Eliza P., aged 18, admitted January 13th, 1859. She was a moderately florid girl, but her face was so much pitted with small-pox as to prevent any other peculiarities of physiognomy from being noticeable. The keratitis was only just commencing. She had enjoyed, she said, excellent sight until three weeks ago when the left eye began to inflame. In the centre of the left was now a patch of diffused dimness of most characteristic appearance ("ground glass"). The sclerotic was slightly congested, and there was some intolerance of light. The other eye was "a little weak," but presented no traces of inflammation. The bridge of her nose was wide and rather sunken. The left upper incisor had a broad central notch, and the other teeth were of suspicious form. The lower incisors presented an ill-marked horizontal notch.

As to family history the girl stated that she was the third of seven who were living.

Her eldest brother (now aged 22) had, when about ten years old, suffered from bad eyes for a long time, but had now quite recovered. She believed he had been quite blind for some months.

In this case I could not see either parent, as they lived in the country. As the facts are rather scanty, I may state, that Mr. Streatfeild, who kindly transferred the patient to my charge, had made the diagnosis as to hereditary syphilis before doing so. Mr. Hulke and Dr. Bader, both saw the girl and fully agreed in the opinion that her

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aspect, state of teeth, and keratitis taken together warranted the belief that she was the subject of inherited taint.

Case XVII.—Suspicious physiognomy and characteristic teeth—Remains of interstitial keratitis in both eyes.

Henry C., aged 14, admitted on account of the remains of chronic keratitis in both eyes. All congestion had long since disappeared and only dim white interstitial clouds of opacity remained. The bridge of his nose was broad and rather flat; teeth most characteristic, being notched and tuberculated. There were wide spaces between the incisors, and all the four canines showed a central tubercle. He stated that he was the third of four living children. A sister had suffered from "bad eyes." His mother was dead and I had no opportunity for obtaining an account of his infancy.

Case XVIII.—Double keratitis—Suspicious physiognomy and characteristic teeth—History of symptoms in infancy and of syphilis in her father.

Caroline E., aged 20, the eldest of several children. She was a pale cachectic girl, but her physiognomy was nowise characteristic. Her upper incisors were deeply notched and of unmistakable contour. Both eyes were affected with chronic keratitis which was, however, most severe in the left. Her mother told us that as an infant she had been puny and ailing, and could not walk until more than two years old. She then had snuffles very badly, and for a long time, and she still has nasal obstruction. She was much under medical treatment in childhood. Her mother confessed that she was aware that her husband was suffering from the venereal disease soon after their marriage, but denied that he had ever communicated it to herself.

Case XIX.—Opacities in each cornea—Clear history of inherited syphilis—Peculiar forms of caries in the upper (deciduous) teeth.

Caroline P., aged 6; in both corneæ were opacities, the

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result of bygone disease, but they were more superficial than those usually seen after specific keratitis. All the incisors of her upper set (milk teeth) were decayed; the laterals had fallen, the centrals were affected with black caries, and the canines were reduced by wearing away of their outer layers to the peculiar condition of central tusks which I have elsewhere fully described. Her lower teeth were of white colour, and all of them perfect. Her mother stated, that soon after marriage (ten years ago) she had contracted syphilis from her husband. Her first three infants all died within a few months of birth. The patient was her fourth, and was born healthy, but from the age of six weeks to that of a year she suffered severely from rash on the buttocks and body, sores at the anus, and snuffles. The eyes first inflamed when she was a year old.

Case XX.—Double keratitis—Recovery under specific treatment—Very suspicious family history—Black caries of deciduous teeth in two sisters.

Emma J., aged nearly 4; when two years old, both corneaæ were attacked by interstitial inflammation, from which some opacity still remains. For a time she was nearly blind. For the last six months she has been taking the bichloride of mercury, under Dr. Bader's prescription, with great benefit both to her general health and to her eyes. Her aspect is most marked; nose sunken and broad, angles of mouth puckered by old fissures. Her mother gave me the following history of her family. The first two died within a few weeks of birth. The third is living, but suffered when an infant from bad snuffles, and now shows fissures at the angles of the mouth and black caries of her upper teeth (deciduous). The fourth is the patient, who also suffered from snuffles and had double purulent ophthalmia in infancy. The fifth is a baby now two years old, large and well grown, but whose upper incisors are already affected with black caries. No direct questions were asked.

Case XXI.—Commencing keratitis—Marked physiognomy—Loss of upper teeth, with exfoliation of bone—Nodes on tibiae—Glandular abscesses—History of syphilis in father.

Charles G., aged 14; a most marked physiognomy sunken nose; fissures at angles of mouth and pits in the cheeks; large scars of ulcerated glands in the neck. The anterior part of the alveolus of the upper jaw has been exfoliated, and the gum is still much swollen. All the upper incisors are wanting. The lower incisors are deeply serrate, and in the side of one of the upper canines, close to the gum, is a remarkable tubercle. Both his tibiæ are bent forwards, enlarged, and of uneven surface; he has had much pain in them. His mother states that she knows that her husband had "the disease" before marriage, but denies that he ever gave it to her. She looks fairly healthy, but says that since marriage she has never been so well as before.

Charles G. is her first child. In infancy he had very bad snuffles, a rash on the body, and sores at the anus which lasted a long time. "He took a great many powders." The second child suffered also from rash and snuffles, and was for a long time very delicate. The third and fourth are living, and are said to have never shown any suspicious symptoms. The fifth died soon after birth, and the sixth died of "water on the brain," at the age of three years.

Charles G. is himself fairly grown. The abscesses in the neck first showed themselves when he was three years old, and at the same time the eyes were affected. For a fortnight past the left cornea has been inflamed, and it now presents a characteristic condition of "interstitial keratitis," the deposit being chiefly in its upper third."

The above are the notes taken of a case which Mr. Streatfeild kindly transferred to my charge on November 11th, 1858. About the diagnosis there could be no doubt whatever.

The treatment prescribed, consisted in the inunction of small quantities of the mild mercurial ointment, and the administration of the iodides of potassium and iron. The

right cornea became affected within a few days of his admission, and both suffered severely.

On May 30, my notes state "both cornea are now clear, and he can read minion type easily. He states that he is much stronger now than he formerly was, and has decidedly gained in general health during the course. The remedies have been regularly continued. The gum is now quite sound."

Case XXII.—Interstitial keratitis in its early stage—Characteristic physiognomy and teeth—History of constitutional syphilis in the mother—Symptoms of syphilis present in infancy.

Sarah Ann H., aged 8; physiognomy characteristic: features contracted and drawn; skin pale, harsh and dry; fissures at angles of mouth and pits in other parts of face. Neither incisors nor canine teeth in the upper jaw. Her mother states that she did not cut them until about a year old, and that within six months they had become black and rotten. From two years old to the present time she has been without them. The permanent teeth are just showing. The lower incisors (permanent) are very small and peggy, with conical growths on their borders. Since the age of one month, she has always had "a bad cold in the head," which is aggravated by the slightest cause. In infancy she "snuffled very bad indeed." She also had what her mother considered "thrush," and for a long time her anus was very sore. Her mother is not aware that she ever took mercury, indeed she was never under much medical treatment. She is deaf, and has for a long time suffered from otorrhœa. For some time past she has complained of dimness of sight, and that the eyes "watered very bad." The corneitis is in its initial stage and began about a week ago. In the centre of the right cornea is a patch of white deposit which gradually edges off, and which when carefully looked at is seen to be interstitial. No congestion of the sclerotic, and no haziness

of other parts of the cornea or swelling of the lids. Some intolerance of light, and lacrymation.

Her mother, although of fairly healthy aspect, tells me that she has never been really well since her marriage. She is not aware that she ever had primary symptoms, but once suffered from a severely ulcerated throat which the medical man who attended her said was venereal. She has been pregnant only three times, and all her children are living. The patient is the eldest. The two others are healthy, but both squint, and in the youngest the strabismus is referred to "an attack of inflammation of the brain." The youngest had had sores at the anus and a discharge from the ears.

On examining the mother's throat there were seen the cicatrices of an extensive ulceration. The left side of the velum had been partially destroyed and the uvula was tied up to it by adhesions.

In this case, under a somewhat prolonged treatment, the cornea were restored to almost perfect transparency.

Case XXIII.—Double keratitis—Characteristic physiognomy and teeth—History not obtained.

Emma W., aged 19, but looking like a woman of 30, was admitted under Mr. Critchett's care with keratitis of both eyes. The disease had begun in the right eye a month ago and had attacked the left three weeks later. The right cornea was dim in its whole extent, and its surface wanting in polish; there was a fringe of vessels passing on to its surface from above and a smaller one from below. In the left the affection was less advanced, but the same fringes existed in a less degree.

The patient was married, and was suckling an infant ten months old. The outbreak of the disease had probably been induced by the debility caused by lactation. She was extremely cachectic and pale whilst both her complexion and teeth were most characteristic of the heredito-syphilitic diathesis. She had never had inflamed eyes before. Mr. Crit-

chett was good enough to transfer her to my charge. I ordered that the infant should be weaned and ventured to prescribe iodides and mercurials in small doses.

Case XXIV.—Remains of chronic keratitis—Deafness—Attack of iritis—Physiognomy and teeth suspicious—History of syphilis in infancy.

John B., aged 21; his aspect was such that I suspected hereditary syphilis the moment I saw him; more than this cannot be said, neither his teeth nor any single feature were so positively marked as to make the diagnosis conclusive. The corneæ were both of them thinned and prominent, as if they had formerly been inflamed, and in the left was still a slight haze. His mother told me that his father and uncle were surgeons, and that they both considered that the lad's ailments were due to "the disease" contracted in infancy. A rather roundabout story was, however, told as to the mode of its acquisition. It was stated that he had been put to the breast of one of his aunts at the time she was suffering from a specific eruption, and that he afterwards had a breaking out of sores on the body, which lasted a long time. He had also bad snuffles and sores at the anus. After that, he was very ailing until aged 8, when an inflammation of the eyes occurred, for which he was for a long time under Mr. Dalrymple's care, and which made him for a time quite blind (Qy. chronic keratitis). About the same age he had double otorrhœa, which left him quite deaf, as he still is.

This young man was admitted not on account of the keratitis, which had indeed long passed away, but for a sub-acute iritic attack in the left eye. Under mercurial and iodide treatment this soon passed off: the other eye did not suffer.

Case XXV.—Chronic keratitis in one eye—Suspicious physiognomy—History not obtained.

Sophia H., aged 23, married. Her only child had died in convulsions, aged three months. She came on account

of inflammation of the left eye of a month's duration. The disease was interstitial keratitis in a well characterised form. The bridge of her nose was broad and low; her complexion pale with many small pits. Her elder sister came with her and stated that she also had suffered from inflamed eyes. In neither of them was the physiognomy more than merely suspicious. In both the teeth were broad and large, but of bad colour and peculiarly squared at their sides. Their parents were dead and I had no opportunity for obtaining any history of their symptoms in infancy.

Case XXVI.—Relapse of keratitis occurring in one eye long after both had apparently recovered—Characteristic physiognomy—History denied.

Henry P., aged 12; he is the second of four. The eldest died, aged 4, of measles; the third died, aged eight months, of "very bad thrush;" the fourth is living and reported to be healthy. He is stated to have been a healthy baby, but has been very delicate of late years. His eyes first began to suffer about two years ago, and he attended at the Moor-fields Hospital nearly blind for some weeks. There is now a dim opacity in the right cornea from bygone inflammation. The left cornea is acutely inflamed and shows numerous reddish punctate deposits of lymph in its structure. The sclerotic of the left eye is congested and the intolerance of light is great. His father, who comes with him, is a pale cachectic man, but he denies with warmth any history of syphilis. Against his denial are the existence in his son of large symmetrical scars at the angles of the mouth and below it almost to the chin, of a flattened bridge of the nose, of psoriasis on the face, and of stunted and notched teeth. The boy's physiognomy is indeed most marked.

Case XXVII.—Interstitial keratitis—Deafness—Characteristic physiognomy and teeth.

Walter R., aged 8, admitted in July 19th, 1858. Dr. Bader then saw him and made the diagnosis of "syphi-

litic corneitis," and prescribed mercurials. I saw him in October, and both corneaæ had then cleared to a great extent. The irides were leaden and lustreless. His physiognomy and teeth were both quite characteristic. He was deaf on both sides from otorrhœa some years ago. His mother denied all history of venereal disease in herself or her husband. She said that when born the child was a fine baby, but that he rapidly wasted, and was so excessively fretful that he was always crying when awake. He grew up a little puny child, and for years was almost constantly under medical care. He was the eldest; two younger were stated to be living and healthy.

In this case, as in many of the others, the diagnosis of hereditary syphilis was not made originally by myself, a fact of considerable value as confirmatory of the correctness of the opinion.

Case XXVIII.—Recent attack of keratitis in one eye—Characteristic physiognomy—History of infantile syphilis.

Emma M., aged 8, the second of seven living children. Her mother had lost seven in early infancy. The one still living, older than the patient, was stated to have suffered from a similar affection of the eyes from which she had been blind for several months, but had subsequently quite recovered. A third in the family is still subject to tinea tarsi. In Emma M. the aspect of hereditary syphilis was well marked; there were fissures about the alæ nasi and at the corners of the mouth, and also scars in the soft palate. The history given was that in infancy she had suffered from thrush and snuffles both very badly, and had also had an eruption on the body. The keratitis had commenced about a fortnight before she applied at the hospital, and as yet the left eye only was affected. In the centre of the left cornea was a large diffused patch resembling ground glass, but a little reddened. The intolerance of light was but slight. Quinine, blisters, etc., were prescribed and continued for about a month, but with no advantage, when treatment by the iodides was substituted.

Case XXIX.—Remains of double kerato-iritis One eye lost by iritis in infancy—Physiognomy and teeth characteristic—History of infantile symptoms—Syphilis in both parents.

Amelia L. G., aged 20, (portrait No. 7 of the stereoscopic series in the Museum of the Moorfields Hospital). This patient, a governess, whose parents had once been in very good circumstances of life, was brought up from Liverpool to be placed under Mr. Critchett's care on account of the effects of chronic kerato-iritis. Her aspect was most characteristic; complexion pale and earthy; lips fissured; nose broad and sunk; numerous small pits in face. The teeth were small, peg-shaped and notched; all the molars had already decayed and come out. She was stated to be liable to hoarseness, but no destruction of palate had occurred. She had suffered much from pain in different bones and near the extremities of both radii were periosteal enlargements of old standing. Her aunt, who came with her, stated that she had been a very delicate baby, and had then suffered from long continued snuffles, attended by a rash on the face. She was the eldest living. Her mother had borne eleven children, of which the first six all died very young (most of them were premature births); the seventh was the patient; the eighth was still living, but was liable to fits and suffered from weak eyes; the ninth, tenth, and eleventh, all still living, were reported to be healthy.

With regard to the eyes:—"There is a slight divergent squint; the right eye is lost, its cornea being thinned and bulging, and the pupil completely occluded by a white membrane which looks chalky. The left pupil dilates irregularly under atropine, and the iris is thinned and much deficient in lustre. Both corneas look as if they had formerly been extensively opaque, but are now nearly transparent in most parts. Her right eye is said to have been lost by inflammation in early infancy. At a subsequent period, however, (about æt. 9), she again had inflammation of the eyes, and

on this occasion the left also suffered and she was blind for some weeks."

As her parents did not attend, of course, no direct questions were asked. About three weeks after her admission, however, her aunt one day told me quite spontaneously, that her mother thought we ought to be informed that she had suffered from "the disease" soon after her marriage, and that the child had received it from her.

Case XXX.—Effects of bygone keratitis (double)—Aspect of hereditary syphilis well characterized.

Thomas K., aged 22, a pale cachectic looking man in whom the aspect of hereditary syphilis was very marked. He stated that he had been very delicate in childhood. His lips were deeply fissured by former ulceration, and his teeth were small and notched. Both eyes presented the appearances of past keratitis. The anterior chambers were large; the corneæ slightly dim in parts and flattened. The irides looked thin and were rather green in tint, but there were no pupillary adhesions. The eyes had first inflamed four years ago, and he had been under treatment at different institutions ever since. The affection attacked the right eye first. For four months he was so blind that he could but just see a candle. No opportunity occurred for getting any history of his symptoms in infancy.

Case XXXI.—Heredito-syphilitic diathesis and history—Acute keratitis of the left eye, cured by mercurials—Right eye subsequently attacked—Good effects of specific treatment.

Eliza B., aged 8, admitted July 1857. A pale emaciated and puny child; aspect of hereditary syphilis well marked, and history of suspicious symptoms in infancy. Out of nine births her mother had but two living children; four still births had occurred, and three infants had died young.

The left cornea was, at the time of admission, the only one affected. It had been attacked five weeks before. Mercurial inunction was resorted to, and it rapidly cleared. In November, however, the right eye was attacked and suffered much more severely than the other had previously done. When readmitted the right cornea was wholly opaque, and very red; the opacity in its centre was extremely dense; no glimpse of the iris could be obtained. There appeared to be a mass of lymph in the anterior chamber adhering to the posterior surface of the cornea, but as to this fact, appearances might be deceptive. The sclerotic was much congested and there was moderate intolerance of light. Five grains of the iodide of potassium were ordered to be taken three times a day, and the mild mercurial ointment to be rubbed in night and morning. These medicines did not disagree, and within three weeks great improvement had resulted. The cornea was then clear excepting at its centre; the lymph had been wholly absorbed from the anterior chamber, and she could see with the eye very fairly.

My note in this case says, "at one period the state of the eye looked hopeless." The effects of specific treatment were exceedingly well marked in the case of each of the eyes. It must be borne in mind, however, that the second eye was attacked within two months of the suspension of this treatment, and that it suffered more acutely than its fellow.

Case XXXII.—Acute keratitis in both eyes—Syphilitic aspect and suspicious history—Tonic treatment—Partial recovery in six months.

Mary Ann B., aged 11. Aspect of hereditary syphilis very marked. Of eight conceptions her mother had but two children now living, most of them having resulted in still-births. When an infant M. A. B. had a badly ulcerated mouth and sore lips, as proof of which deep puckered cicatrices still remain. Her mother now has psoriasis of a suspicious aspect about her face.

The right eye had been first attacked six months ago, and a few weeks later the disease appeared in the left also. The corneaæ became so opaque that she was quite blind for some weeks. I did not see her until five months after the onset, and the acute stage had then passed away. Both corneaæ were slowly clearing, the right being dimly granular throughout its structure, and the left having in its centre a dense red vascular opacity. Both looked thinned and expanded. She had been treated for "struma" only, having taken cod-liver oil and tonics. My note adds, "It is probable that both corneaæ are permanently damaged, especially in form."

Case XXXIII.—Physiognomy and history of hereditary syphilis—Keratitis in both eyes—No specific treatment—Both corneaæ permanently damaged.

Catherine B., aged 17, physiognomy typically that of hereditary syphilis. Bridge of nose fallen and very wide; bad earthy complexion; puckered fissures at the angles of the mouth; face pitted by the scars of a bygone eruption. Her mother stated that in infancy she had had snuffles very badly indeed, also sore throat, and what was considered thrush. Subsequently she had discharge from both ears, which has left her partially deaf. Out of fifteen, her mother has but five living children. Most of them suffered from severe snuffles in infancy.

The right eye was the first to be attacked, and the left suffered very shortly afterwards. She was quite blind for three months, and was under treatment at another hospital. I did not see her until three years after the attack, and her condition was then as follows:—"Both pupils irregular, and the irides discoloured and thinned. Both corneaæ opaque by granular white dots, and slightly expanded and misshapen. Sclerotics thinned and bluish. The eyes are still very irritable, and she cannot see sufficiently to distinguish the largest type."

Case XXXIV.—Aspect and history of hereditary syphilis—Effects of double keratitis still remaining nearly three years after the attack.

Charles D., aged 6, the third of five living children. His mother had had three miscarriages, but had not lost any infants born alive. He was stated to have been a puny infant, and to have had no finger or toe nails for some months: did not walk until more than two years old. Has been liable to enlargement of the glands in the neck which have been ulcerated for eight months past. Aspect of hereditary syphilis well marked.

Both eyes inflamed almost coincidently nearly three years ago, and he was quite blind for several months. When I saw him for the first time two years and a-half after the acute disease, both corneæ were still opaque in their centres and much expanded and misshapen. The irides were thinned and the pupils, which could not be distinctly seen, appeared to be adherent in parts. The globes were small, and had acquired a peculiar rolling motion. Tonic treatment only had been employed.

Case XXXV.—Aspect and history of hereditary syphilis—Effects of past kerato-iritis in both eyes—History of syphilis in the mother.

Mary M., aged 15, came under my care amongst the out-patients at the City Hospital for chest diseases, in October 1855. She was the eldest of thirteen children, out of whom five had died young. Three had suffered from suspicious symptoms in infancy. She was stated to have been a healthy infant when born, but at three weeks old had severe "thrush" and snuffles. The mouth became very sore, and sores also formed at the anus, which lasted nearly a year and were difficult of cure. Her mother acknowledged to having had syphilis.

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In both eyes were the results of long past keratitis. The corneæ were opaque in spots, and the irides were thinned, and discoloured; there were also some pupillary adhesions. The girl's aspect was characteristic of hereditary syphilis, but at that time I was not aware of the peculiarities of the teeth, and did not examine them. Whilst she was under treatment her mother was delivered of her fourteenth child. The infant was a fine one, but within a few weeks fell away and suffered from severe snuffles, with a characteristic copper-coloured rash. It recovered under mercurial treatment. The history of the family, therefore, presents us with a remarkable illustration of the long persistence of specific taint in the system of the parents; of its falling with greatest severity on the first born, and very unequally on subsequent ones.

Case XXXVI.—Hereditary-syphilitic aspect and history—Old-standing inflammation of both corneæ, and large staphyloma of one of them.

Emma M., aged 9, of most marked syphilitic aspect. Nose sunken; laryngeal breathing with aphonia; nodes in front of both tibiae; large cicatrices in the pharynx. In infancy she was reported to have suffered severely from "thrush," snuffles, inflamed eyes, etc. Her mother had been twice married. By her first husband she had born seven healthy children, but by the second, three successive still-births (at full time), and then the patient; since the latter, five others have been born, of whom four have died with suspicious symptoms in early infancy.

The right eye was quite destroyed by a large staphyloma of the cornea. In the left the cornea was extensively opaque and dotted with white spots of interstitial deposit. The iris as far as could be seen, appeared thin and discoloured. The lids were affected by chronic tinea tarsi. The history given was that repeated attacks of inflammation had occurred in the eyes from infancy up to the present time.

Case XXXVII.—Double kerato-iritis occurring at the age of ten—Latency of symptoms up to that age—History of syphilis in the mother.

Mary O., aged 11, aspect of hereditary syphilis most marked, nose destroyed, by erosive lupus, to a level with the face, uvula and soft palate also wholly destroyed. Her mother's eldest and only living child. No suspicious symptoms appeared to have occurred in infancy, but her mother acknowledged that soon after marriage she had contracted "the disease" from her husband, and that it had been followed by constitutional phenomena. The child appeared to have remained well until ten years old, when the disease broke out almost simultaneously in the throat, eyes, and face.

In both eyes were the evidences of a now passing attack of corneo-iritis. Both irides were discoloured and thin, and the corneæ slightly opaque by spots of deposit in their structure.

Case XXXVIII.—History and aspect of hereditary syphilis—Double kerato-iritis—Aphonia—Deafness and ulceration of the palate.

Elizabeth H., aged 15, a patient at the City Hospital for Diseases of the Chest in 1852. The eldest of three, the others reported healthy, but liable to eruptions. Father, a dissolute man, much subject to scaly eruption and sore throats. Although born healthy, the child at the age of three weeks and from that to a year, suffered from severe snuffles; she also had the "thrush" badly. After that, however, until the age of five she was a stout, healthy-looking child. The eyes then inflamed and soon afterwards the throat ulcerated, and subsequently she became deaf.

She was a puny girl of most marked syphilitic aspect. There was active ulceration of the posterior pharynx and pillars of the fauces, whilst the uvula and large part of the

soft palate had already been destroyed. She was quite deaf, and suffered also from aphonia, with laryngeal whistling during cough.

Although the disease had commenced ten years ago the corneæ were still so hazy that the irides could not be distinctly seen. The pupils, however, appeared to be partially adherent, and the iris structure thinned and slate-coloured.

The girl remained under Dr. Risdon Bennett's treatment for some months on account of her throat, and derived great benefit from mercurial fumigations and the administration of the iodides with tonics. No material change took place in the state of the eyes whilst she remained under my observation.

Case XXXIX.—Remains of kerato-iritis in both eyes—Aspect of hereditary syphilis—Palate and nose destroyed by ulceration.

Alice S., aged 17, a girl in whom the aspect of hereditary syphilis was very marked. The soft palate was destroyed, and the greater part of the nose lost by ulceration ; there was psoriasis on the face and fissures at the angles of the mouth. Her mother had but four living out of ten children. The patient was the third born, but the oldest living ; all the six had died in infancy. No history of infantile symptoms was given ; her mother stating that all her ailments dated from the age of three years when she had a pea put into one nostril which caused the ulceration to commence.

In both eyes were the effects of a past attack of kerato-iritis. The corneæ were thinned and expanded, and still slightly opaque : the irides thinned and the pupils notched. The first attack had commenced eleven years ago, and she had been under many ophthalmic surgeons. I much doubted the truthfulness of the statement that the hereditary taint had been latent until the age of three. Mr. Curling, under whose care she subsequently came, in the London Hospital, effected much good by a plastic operation for the restoration of her nose.

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Case XL.—Aspect and history of hereditary syphilis—Subacute keratitis in both eyes—Benefit from specific treatment.

Mary N., aged 9, of characteristic physiognomy, but well grown and fairly florid. She was the second of six, out of whom only three were living, and several had had suspicious symptoms in infancy. She herself had when a baby inflamed eyes, very troublesome snuffles, a sore mouth, and an ulcerating eruption on the body, which has left many scars. All symptoms left her at the age of two years, and from that time till the eyes were attacked (an interval of nine years), she was quite well.

The left cornea was first attacked in December 1856, and the disease soon followed in the right eye. She had much circumorbital aching. Both corneæ became very opaque, pink, and misshapen. She took tonics, etc., at first, and the progress was very slow. The improvement became much more decided, though still very gradual, when iodides were ordered.

Case XLI.—Both eyes permanently damaged by an attack of kerato-iritis—Hereditary-syphilitic physiognomy.

Matilda P. was admitted under Mr. Bowman's care; both her eyes having been permanently damaged by an attack of kerato-iritis which had occurred fourteen years before. Her sight was very imperfect; pupils immobile; irides thin and discoloured; corneæ opaque, and extensively dotted. The globes had acquired a certain oscillatory motion* generally indicative of the sight having been much interfered with from early childhood. The history given (I did not see her mother) was that, when five years old, she had caught

* Does this symptom usually indicate a diseased condition of the deeper parts? It appears as if the eye were rolled about in the hope of getting the rays of light on to the tracts or points of retina yet remaining sensitive. May it not also occur where the cornea is extensively impaired in transparency, especially where the opacities are in distinct small dots?

cold in the eyes, and soon lost sight in both. She had never yet menstruated, and was very liable to sore throats. Her aspect was very markedly characteristic of hereditary syphilis; lips fissured, etc. She was quite deaf; her hair thin; patches of psoriasis on the face. In childhood she had had long-continued otorrhœa. The diagnosis of hereditary syphilis was by Mr. Bowman, and I was indebted to him for having my attention drawn to the case. Mr. Bowman subsequently made an artificial pupil in one eye with considerable benefit. The condition of the corneæ was such as to preclude a satisfactory inspection with the ophthalmoscope. Very probably there were also deep-seated changes.

Case XLII.—Double kerato-iritis coincident with phagædenic destruction of the nose and soft palate.

Mary D., aged 8, Irish. Of this case I have no further notes than that the nose was destroyed, level with the face, by phagedenic ulceration; that the soft palate was also destroyed, and that further both eyes were affected by kerato-iritis in a severe form. The child came under my observation in St. Bartholomew's Hospital. I considered the case one of hereditary syphilis, and Mr. Wormald, under whose care the child was, agreed in the opinions.

Case XLIII.—Kerato-iritis in the left eye—Similar attack in the right more than two years afterwards—Syphilitic physiognomy—Nodes, etc.

Annie M'Q., aged 14, came under my observation when she was a patient at St. Bartholomew's Hospital under the care of Mr. Wormald, by whom the syphilitic nature of her symptoms had been fully recognized. She was a puny child of most characteristic aspect. There were nodes on both tibiae, and puckered cicatrices at the angles of the mouth. She was an only child and an orphan, and no history of her infancy was obtainable. About three years ago one of the nodes in the tibia ulcerated, and a piece of bone came away.

Nearly at the same time her left eye inflamed, and continued so a long time. The sight was attacked for the first time only three months ago. Much pain in the orbits had attended the attack.

At the time that I saw her, three years after the outbreak of the disease, both irides were thin and mottled in colour; the pupils were adherent and irregular, and the corneæ opaque in their deeper layers. The eyes appeared to be permanently damaged.

Case XLIV.—Severe keratitis in both—History of infantile syphilis with syphilitic physiognomy.

Julia H., aged 10, came under care at the Moorfields Hospital nine months after the outbreak of kerato-iritis in both eyes and in a severe form. She had been treated by tonics only, and the disease was scarcely yet on the decline. Much yellow-brown lymph had been effused into the anterior chambers, in contact with the posterior layers of the corneæ. The corneæ were very red, and there was considerable sclerotic congestion. At first there had been great intolerance of light, and much circumorbital pain.

Great improvement rapidly ensued on the adoption of specific treatment.

The evidence as to syphilis was that her aspect was very characteristic, and that she had suffered from severe snuffles and eruptions on the nates in infancy. Her mother had a suspicious eruption on the face.

Case XLV.—Chronic keratitis in one eye only—Characteristic physiognomy and teeth.

Eliza D., aged 14, was admitted on February 28th of the present year, in the third month of an attack of keratitis, by which the left eye only had been affected. The opacity was considerable, but already declining. Her physiognomy was most characteristic, complexion earthy and pale. Her upper incisors were small and notched; they were also

crowded and irregularly placed on account of a portion of the alveolus having exfoliated in childhood.

As to family history, I learnt only that there were five children living, of whom she was the eldest; that her father had been a very dissolute man, and that her mother was in an asylum.

Case XL VI.—Double chronic keratitis—Characteristic physiognomy and teeth—Improvement under specific treatment adopted for the first time more than two years after the outbreak.

John E. K., aged 16, was admitted for a second time on June 10th, 1858; Dr. Bader at once recognized his diathesis, and prescribed the bichloride of mercury in small doses. I did not see him until March of the following year. It appeared that he was the only living child of three. His father was in the country, his mother in an asylum; so that no family history could be got. His aspect and teeth were most characteristic of hereditary syphilis. He had suffered from a most severe attack of keratitis in both eyes which commenced more than three years ago. He had been originally admitted at this hospital within six weeks of the outbreak, but, having attended for seven months without benefit, had left and placed himself under treatment elsewhere. He became so nearly blind that he was for a long time only just able to distinguish light from shadow. He was in this state when re-admitted, and had been so for more than six months. The attack had lasted two years and eight months when (on June 10th, 1858), Dr. Bader ordered the bichloride in doses of the fifteenth of a grain three times a day. So far as could be ascertained no specific treatment had ever before been adopted. The bichloride was continued until March 7th, 1859, when he had so far improved that the opacity was limited to the centre of the cornea, and he could with the left eye see to read small pica type.

Case XLVII.—Double chronic keratitis—Aspect suspicious and teeth characteristic.

Frances W., aged 14, the subject of chronic keratitis in both eyes of two years' duration. Her aspect was moderately well characterized, but the teeth much more positively so. She was liable to violent pains in the bones of the head, and her face showed numerous small pits left by some former eruption. I have preserved no note as to her family history. She was admitted on account of a relapse of inflammation of two months' duration. Both corneæ were extensively hazy.

Case XLVIII.—Acute keratitis in one eye—Suspicious physiognomy and teeth—History of syphilis in infancy.

Mary Ann L., aged 12, a pale unhealthy-looking and feeble girl, was admitted on March 7th, 1859. Her left eye had been attacked a month before by acute keratitis, and there now appeared to be a deposit of pus in the centre of the cornea between its layers. The whole surface of the cornea was of deep cherry red colour from the interlacing of minute vessels (see Plate I, Fig. 1). It was quite opaque and bulged considerably. The girl's gums were sore from a rapid mercurial course which had been exhibited prior to her application at the Hospital. The other eye was not in the least affected. The history was most conclusive. Her mother stated that she had contracted the venereal disease from her husband soon after marriage, and that the patient (her first born) attended St. Bartholomew's Hospital until a year old on account of a rash about the nates, and other symptoms which were attributed to inherited taint. When about a year old she improved in health, and from that time until the present had never required treatment for any specific symptoms; of four children born subsequently, two had died in infancy.

In this case notwithstanding the clearness of the history, the disease advanced in spite of specific treatment. The girl had been salivated before she came. During the first ten

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PLATE I.

(To face Page 66.)

Fig. 1. Shows a condition of extreme congestion and blood-staining of the structure of the cornea. From a case of peracute keratitis, in which softening was threatened in the centre of the cornea.
See case XLVIII., p. 66.

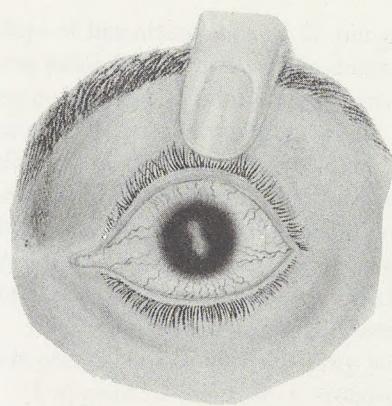
Fig. 2. Dots of earthy deposit in the posterior lamina of the cornea,—the result of a bygone attack of inflammation.
See case III., p. 158.

Figs. III. & IV. Two eyes from the same patient. (Case LV., p. 73.)
This sketch was taken two years after the attack of keratitis. In each eye the substance and posterior layers of the cornea are seen to be occupied by a dense deposit of grey-white lymph. The front surfaces of the cornea were quite free from leucoma, and transparent, giving to the opacities the appearance of having been mounted behind thin laminae of glass.

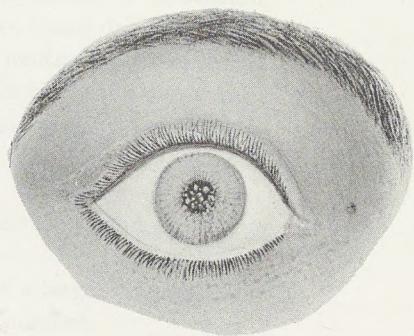
Fig. V. Illustrates the condition often seen in the eyes of those who have suffered from chorido-retinitis, the result of hereditary syphilis. It is from the left eye of case XI., (p. 144.)
The optic disc is obscured, and its vessels greatly diminished in size.
The arteria centralis is extremely small, and in parts is concealed by inflammatory effusion.

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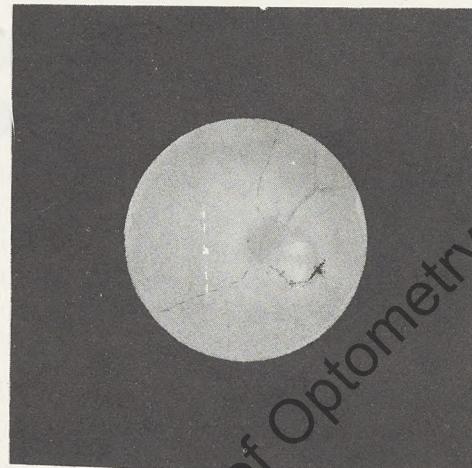
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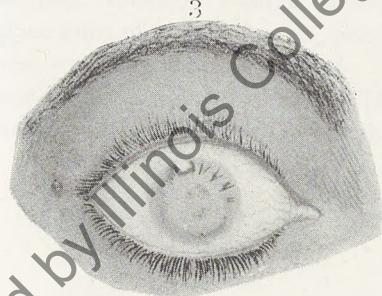
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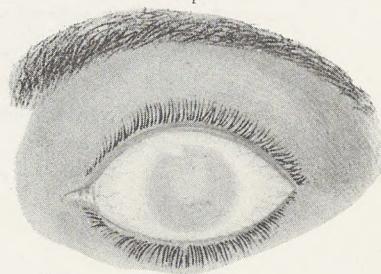
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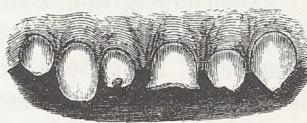
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days of her attendance as an out-patient iodide of potassium was exhibited in three grain doses three times daily but with no good effect. The inflammation was acute and disorganization of the cornea was threatened. Believing that the intractability of the disease was due to the patient being half-starved at home it was determined to admit her. This was done, and rapid improvement ensued. Whilst under treatment, however, the right cornea was attacked and gradually assumed the ground glass condition.

When I last saw the girl, there was a large opacity in the left cornea, which will probably be permanent.

I append to this case a wood-cut representing the girl's upper front teeth. They were very peculiar indeed, in respect to the extreme irregularity of size and the smallness of several of them. They are not, however, by any means so typically characteristic as those shown at pages 69 and 70, in which the central incisors are *symmetrically* dwarfed and notched.



So acute an inflammation of the corneæ as occurred in this instance I have never before witnessed in connection with hereditary syphilis. The girl's feeble health and under-fed condition, taken together with the exhibition of mercury in such doses as to be a powerful depressant, ought probably to be made to explain this unusual severity.

Case XLIX.—Double chronic keratitis—Characteristic teeth—History of syphilis in the father, etc.

Mr. H. brought his eldest son to me, in March, 1859, on account of an attack of interstitial keratitis which affected both eyes. He was fifteen years old, and not particularly cachectic looking, though contrasting strongly with the appearance of robust health presented by his father. His nose was somewhat expanded; his face pale and showing small pits in several places. The state of the eyes was characteristic, the layers of both corneæ being the seat of

numerous small masses of white deposit. Crescentic fringes of vessels were seen on both creeping up from below over the lower segment of the corneal surface. His teeth were as characteristically dwarfed and notched as any I have ever seen.

His father at first denied any syphilitic history, but on being pressed admitted that he had before marriage contracted a chancre. He had himself lost one eye, and on examination I found that the pupil was closed by lymph exactly as if from a neglected attack of iritis. The inflammation had, he stated, occurred spontaneously at the age of twenty. In accordance with my request at the next visit another of his children was brought. She was a girl three years younger than her brother. Her left pupil showed adhesions as if from iritis in infancy, and the lens was in a state of milky opacity. She had a convergent squint and oscillation of the globes; her teeth were small and notched, but not so remarkably as her brother's. I examined the teeth of both parents, but neither of them presented any peculiarity as to form, etc.

August 1st.—This lad has remained under my treatment for three months. The attack proved a most severe one, and for some weeks rendered him quite blind. Latterly the clearing has been rapid, and he can now see fairly. The remedies used have been mercurial inunction and the iodides of potassium and iron internally, with occasional blisters behind the ears and a liberal diet.

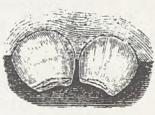
March 1860.—He is now in good health and can see well. Both corneaæ are nearly clear.

Case L.—Remains of chronic keratitis—Characteristic physiognomy and teeth—History of infantile syphilis.

William F., aged 10, the youngest of three living children, having lost no fewer than eleven brothers and sisters in infancy. Of those living, one a girl, now aged 13, attended at this hospital in childhood for what her mother says was "a cataract," but which she admits that the surgeon who saw

the child considered to be due to venereal disease. The boy himself when an infant had severe snuffles, a sore mouth, and sore anus. He was a fretful ailing baby and "always had something or other the matter with him." His mother denies having ever herself had any form of venereal disease, but admits that several other medical men have made the same accusation as myself both respecting herself and her children.

The boy comes on account of the remains of chronic keratitis in both eyes, resulting from an attack which began two or three years ago. The corneæ are thinned, bulged, and still slightly opaque. He is pale and cachectic. His



teeth, of which the central upper incisors are here shown, are most characteristic. It will be seen that the teeth converge towards each other, are very short, have a vertical notch or cleft in their free edges, and that they are also very narrow from side to side at their edges, not being so wide there as at their necks. These peculiarities are those the most suggestive of hereditary syphilis, and are usually seen only in the upper central incisors.

Cases LI and LII.—History of chronic keratitis in a brother and sister—Characteristic physiognomy and teeth—All the symptoms better marked in the elder.

John A. and his sister Elizabeth, aged respectively 7 and 14, were admitted on February 28th, 1859. In both the peculiar physiognomy was well characterised, so much so that I had recognised it before seeing their eyes. In the sister (*i.e.*, the elder child) all the peculiarities were much the more marked; she was very hoarse, and had large cicatricial fissures extending from the angles of the mouth. At the age of seven her eyes inflamed and were affected severely, and for many months. The corneæ had now nearly regained their normal transparency. In the boy the attack was but just passing off, having occurred quite recently, and having been much less severe than his sister's. The girl's teeth were exceedingly small, being peg-shaped, with wide interspaces,

whilst her brother's were large and only differed from those of normal type in being more deeply serrate. No history as to infantile ailments could be obtained.

Case LIII.—Double chronic keratitis — Characteristic teeth—Recovery under specific treatment.

Frederick S., aged 11, was admitted with double keratitis in August, 1858. Specific treatment (iodides, and mild mercurial inunction) was adopted, and the disease never advanced to a very severe stage. In March, 1859, he was discharged well, both corneaæ being quite clear. His aspect was not particularly characteristic, but his teeth were so typical as to warrant a very strong opinion.

The appended wood-cut shows his central upper incisors which almost exactly resembled those figured in the preceding case (See *Case L.*) I did not see any one from whom information as to infantile symptoms could be obtained, and the following is therefore a very important corroborative fact. His elder brother, aged 13, had his teeth much more extensively affected, and his physiognomy was also very characteristic. He had never had inflamed eyes, but had been very short-sighted from birth.



Case LIV.—Severe double keratitis—Typical teeth—Eyes permanently damaged.

Mary Ann H., aged 19, a tall well-grown girl, whose face, excepting that the skin is pale, flabby, and greasy, exhibits scarcely any of the marks of the heredito-syphilitic diathesis. has been attending as an out-patient at the hospital for nearly three years past.* I have watched her case with great interest, as it has exhibited the course of chronic keratitis in a typical and severe form. Commencing in the left eye, and soon afterwards attacking the right also, both corneaæ were

* This case was originally published in July 1859. I have not altered the wording of the narrative.

in the course of three months rendered so opaque that she was practically blind. The amount of lymph effused into the corneal structure was very great, and assumed in both a peculiar pink tint, quite different from that caused by the encroachment of crescentic fringes of capillaries over their surfaces. The cornea became also considerably misshapen, and there appeared at one time very little hope that any degree of recovery would ever ensue. For upwards of six months she required to be led about as a blind person. About nine months from the onset, however, the process of gradual clearing became established, and although it proceeded very slowly, yet an extent of recovery has now taken place far beyond what had been hoped for. With her left eye she can at the present time see to read, and only certain thin films of opacity remain visible. In the right cornea there is still a large white opacity which will probably be permanent.

This case was not under my own treatment, and during the first year no specific measures were adopted, tonics and reputed emmenagogues being alone resorted to. Indeed we were misled by her not presenting the usual physiognomy of hereditary syphilis, and thought that the case might probably prove an exception to the general rule. At that time we did not place reliance on the condition of the teeth as a symptom, and were not much in the habit of inspecting them. As may be supposed, it was therefore with great interest that I found, on looking into her mouth for the first time a year subsequent to her admission, that her teeth showed most unmistakeable marks of the syphilitic impress. The upper incisors were in particular deeply notched, short, and of bad colour. To those who place the same reliance upon this symptom that I do the case was now placed almost beyond doubt, since I regard the coincidence of notched upper incisors and chronic interstitial keratitis, as sufficient to establish a very strong suspicion of hereditary syphilis despite the absence of a corroborative family history. In the present instance the only facts as to the family which

could be got at were the following:—Her mother, whom we had often seen, was a stout healthy-looking woman ; she had borne fifteen children, of whom, however, no fewer than eight had died in infancy (one in consequence of an accident). The patient M. A. H. was her second, and the oldest, a boy, is living and reported healthy. No direct questions were asked.

Case LV.—Unusually severe attack of double keratitis affecting the deeper layers—Complete blindness—Characteristic physiognomy and teeth.

The following case exemplifies a condition occasionally seen in the course of chronic keratitis which differs remarkably from the more ordinary ones. I have, as yet, only witnessed it in two or three instances, and have had no opportunity of watching its mode of production.* In the stage under which they have hitherto come under observation the cornea retains its form ; and its surface and superficial layers are quite free from vascularity and from morbid deposit. Moulded, however, behind it, and probably also occupying its posterior layers is a dense grey white mass, in which vessels are easily seen ramifying, and by which every part of the iris and pupil are wholly concealed. The appearance is very peculiar, and differs from that of any other form of leucoma that I have ever seen. The opaque organized lymph being exactly coextensive with the cornea is evenly convex in all parts, and the transparency of the most superficial layers of the latter permits its structure as well as its form to be observed in detail. Is it simply that the anterior chamber is filled with lymph which has been moulded at the back of the cornea ? I have often asked other experienced ophthalmic observers to look at such eyes and tell me whether the cornea or the anterior chamber was the location of the opacity, but hitherto without getting at any

* Being in the constant habit of employing specific remedies from the first, my hope is that I never shall in my own practice witness the production of this state of things.

trustworthy conclusion. It is indeed impossible from mere external inspection to arrive at an opinion, my belief is that the posterior layers of the cornea, and its posterior free surface are both affected by the deposit, but that the iris usually escapes. At any rate the most wonderful clearing away sometimes takes place, and then the iris is seen to have preserved its original colour, etc., in a way which it could not have done had it been once involved in a mass of organized inflammatory product. The condition, as I have witnessed it, is symmetrical, and the patient is, of course, quite blind for the time.

Joseph R., aged 14, of stunted growth and of most characteristic physiognomy and teeth, was admitted in December, 1858, his eyes being in the condition just described (See Plate I, Figs. 3 and 4). He could but just tell light from shadow, and some friends were making interest to have him admitted into a Blind Asylum. He had been treated hitherto at another hospital, and in each temple were large unhealthy sores, with swollen everted edges, the results of the irritation of setons.

He had taken cod-liver oil and tonics, but had had no specific remedies. The attack had commenced in November, 1857, and developed rapidly in both eyes, with much lacrimation and intolerance of light.

From his mother I obtained the following history of her family. Her eldest child was living and in good health. Before the birth of her second she had sores on the genitals, which were followed by a sore throat. Her second child suffered severely from infantile syphilis, and was seen by Dr. Davis and Dr. Rees, both of whom gave unqualified opinions as to the nature of its ailments. This child subsequently had inflamed eyes, and one of them is still "bad." The third child, now aged 16, also suffered from a prolonged attack of inflammation of her eyes, and still has very imperfect sight. This child, when three weeks old, was attacked by undoubted symptoms of hereditary syphilis, and was long under medical care on account of them. The patient,

Joseph R., is the fourth of the family, and also suffered from suspicious symptoms in infancy. He has one younger sister, who is reported to be healthy. His mother has lost only two, one of which was a stillbirth and the other died of brain disease at the age of ten weeks.

Joseph R., continued under my care for upwards of two years. He took a long course of the bichloride in small doses, but with scarcely any benefit. The iodides were also used. The deposits were, however, too well organized to yield, and he gained only sufficient sight to see shadows. No relapses of inflammation occurred. At length as his condition was evidently hopeless; he was (January, 1861), sent to a Blind School. It is the only instance of permanent blindness, as the result of keratitis, which I have seen.

Case LVI.—Permanent opacities after a severe attack of interstitial keratitis—Characteristic physiognomy and teeth.

Louisa W., aged 17, a pallid girl of flabby tissues but well grown, was admitted under Mr. Dixon's care nearly three years after the first onset of the disease. The attack had evidently been a most severe one, and had left large permanent opacities in both corneaæ which greatly interfered with sight. In the right eye Mr. Dixon performed an operation for displacement of the pupil in order to bring it opposite a clearer part of the cornea. Great benefit was obtained. The right eye was the first attacked but the left soon followed. This was about three years ago. She attended a surgeon who, according to her account, administered medicines which made her mouth very sore. For six months she was so nearly blind that she could only just see the light. Her aspect and teeth, the latter especially so, are characteristic of the diathesis. She states that she is the fourth child and the only living girl in a family of nine. Six boys are living and reported healthy; two girls died in infancy.

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Case LVII.—Remains of opacities from interstitial keratitis—Characteristic physiognomy and teeth—Deafness.

Archibald M'N., aged 13, a boy whose notched and stunted upper incisors and puckered angles of mouth sufficiently denoted his specific diathesis, was admitted on May 8th, 1859. Both corneæ were extensively hazy from the effects of chronic keratitis. The disease had begun three years before, and had been so severe that for fifteen months, according to his own statement, he was blind excepting as to perception of light. He had attended at the Charing Cross Hospital throughout the whole time. He was the eldest child of three, and had not lost any brothers or sisters. The two younger were aged respectively nine and four years. He had suffered from otorrhœa which had left him very deaf.

Case LVIII.—Remains of opacity from chronic keratitis in the right eye only—Characteristic teeth and suspicious family history.

William S., aged 12, from Yorkshire, was admitted on May 8th, 1859. He was of suspicious physiognomy and had characteristic teeth. His mother stated that he had been very delicate when a baby, and that of four older than himself three had been dead-born and one had died in infancy. He had suffered from otorrhœa in childhood which had left him rather deaf. The left eye had never been affected, and its cornea was still quite clear. The right had been attacked by interstitial keratitis four years ago.

The upper central incisors presented a condition which I had never before seen. Although they had been cut for more than three years, neither of them had grown more than a line or two above the level of the gum. They were of very bad colour, and had notched irregular edges. His mother stated that the upper incisors of his first set had dropped out very early, and that for a series of years he had been without

any. Only one brother was living (aged 6), and he had never suffered from inflammation of the eyes.

Case LIX.—Chronic keratitis in both eyes—Disease of retina, etc.—Characteristic physiognomy and teeth—History of syphilis in parents and of symptoms in infancy.

Charles B., aged 26, of most characteristic teeth and physiognomy, was admitted for a second time in February, 1859. He had previously attended for a long time six years ago, probably for interstitial keratitis, but unfortunately no notes had been preserved. His corneæ, although still extensively hazy, had cleared sufficiently to permit of an ophthalmoscopic examination of the deep parts, which was made on account of his complaining that the sight of the right eye had recently failed. The media were seen to be hazy, as was also the retina, and the blood supply was decidedly below that of health, and the optic entrance was flat and sharply defined.

The family history, as I obtained it from his mother, was that she had contracted "the disease" from her husband a few years before C. B.'s birth. Prior to this she had borne several children, all of whom had been healthy. Her first child subsequent to the infection died with rash about the nates and other specific symptoms. The patient suffered severely from the same in infancy, and was not expected to live. Five younger children are living and fairly healthy.

Almost immediately after his second admission a rather sharp relapse of the keratitis occurred. Treatment by the inunction of mild mercurial ointment and the exhibition of iodide of potassium was ordered, and he made slow improvement during the several months that he remained under notice.

Case LX.—Double kerato-iritis—Characteristic physiognomy, etc.

Thomas H., aged 12, a boy from the workhouse whose "father is dead and mother run away," and respecting

whose early history no information can therefore be obtained. He states that he has one elder sister, and that she, like himself, has suffered from badly inflamed eyes for a long time. In himself the attack commenced two years ago, and affected both eyes. The pupil of the left eye is almost occluded by the effects of iritis, and both corneæ are extensively hazy. He is of marked syphilitic aspect; the nose being broad and sunken, and there being deep puckerings about the angles of the mouth and pits in the skin of the face. His teeth, instead of being stunted, are very large, but the upper incisors are marked by a furrow crossing their front surfaces. The left upper canine is not yet cut, but its right fellow, which has only been through for about a month, presents a most remarkable constriction near its apex. This constriction I have often seen near the apices of the canines, both in syphilitic and other patients; but never to such a remarkable extent as in this instance. The cases in which it has been most developed have all been syphilitic persons, and I therefore regard it as a suspicious though by no means conclusive condition.

Case LXI.—Bygone double keratitis—Characteristic teeth.

The following case was one of peculiar interest to me. In most of the others the patients have come under care on account of their eyes, and from observing the form of keratitis I have been induced to inspect the teeth. In this, however, my suspicions were aroused by noticing the teeth, and from the latter I passed to the eyes, there to find a full confirmation of the opinion that notched upper incisors and interstitial keratitis usually go together.

Mary Ann W., aged 17, a well grown and moderately florid girl, applied to me at the Metropolitan Free Hospital on May 6th, 1859, on account of a sore under her upper lip. The whole lip was swollen, and the sore which was quite superficial had whitish borders. Although her aspect was that of a delicate girl, and her nose was rather broad, I should certainly have suspected nothing had she not in

raising her lip exhibited her upper teeth. The central incisors had a wide space between them and were stunted and notched. All the four canines showed the constriction near the apex referred to in the preceding case. The incisors were indeed quite typical. I at once looked at the eyes, and found both corneæ slightly hazy throughout from the remains of interstitial deposit. The corneæ were expanded and flattened in their centres; the anterior chambers were unduly large, and the irides of impaired lustre. She told me that her eyes had been first attacked about four years ago, that she had attended a few months at an Ophthalmic Hospital, but getting rapidly worse had become a patient of the late Mr. Alexander, under whose care she remained for more than two years. It was eighteen months before any material improvement occurred, and for four of that time she was so nearly blind that she had to be led about. The right was the one first affected. She had suffered in infancy from otorrhœa, which had left her rather deaf. All that I could learn as to her family was that her mother had lost seven daughters during their infancy, and that two brothers, both older than the patient, were, with herself, all who now remained.

Case LXII.—Double interstitial keratitis in a Jewess—Teeth notched and typical—History not obtained.

Priscilla B., aged 15, a Jewess, from Portsmouth, was admitted in July 1859. Both corneæ were affected with interstitial inflammation; the left having been attacked about three months and the right one month. Her central upper incisors were notched in a most typical manner. I did not see her mother, and consequently could obtain no history of infantile symptoms. I learnt, however, that she was the eldest of her family, of whom eight were living and three had died. One of those dead was older than herself.

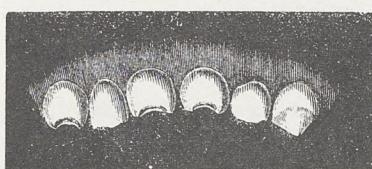
This case is the only one in which I have as yet witnessed interstitial keratitis in a patient of Jewish parentage. Prior to its occurrence I was in the habit of adverting to the fact

of the rarity of this affection amongst Jews, as one which remarkably coincided with the theory of its syphilitic origin since, as I have elsewhere proved, syphilis is comparatively rare amongst that people.

Case LXIII.—Interstitial keratitis and typical teeth—History of syphilis in both parents and of infantile symptoms in the patient.

The following case is of much value as bearing upon the degree of confidence which may be given to malformations of the teeth as indicative of hereditary syphilis:—

Charlotte S., aged 12, presented herself one morning amongst other patients at my table at the Ophthalmic Hospital. Her eyes were kept firmly closed on account of excessive intolerance; and as is not unfrequent under such circumstances, she was showing her upper teeth. Seeing that her upper incisors were notched, I examined them carefully.



They were an exceedingly well characterized set, and presented the features which are roughly shown in the appended wood-cut. There was nothing very noteworthy in her physiognomy apart from her teeth. Her skin was rather flabby and pale, and the bridge of the nose was broad, but not remarkably so.

I observed to the students who were looking on that the teeth were so typical that I wished, for the sake of putting the value of that sign to the test, to pledge myself to the opinion, founded on their state alone, that the girl was the subject of hereditary syphilis.

We now examined her eyes and found them both affected by interstitial keratitis in a well characterized form. I took her mother aside, and having put no other leading question to her beyond asking whether her husband was a healthy man, she spontaneously informed me that he had contracted the venereal disease fifteen years ago, and had communicated

it to her. She was ill for at least seven months with it. At the time of her receiving it, she was two months pregnant. The child was born at the full time, and looked healthy, but wasted away and died at a month old. Her next conception ended at six months in a miscarriage, and the third in a similar event at the eighth month. Her fourth was our present patient who was puny and delicate in infancy and suffered from snuffles, etc. No subsequent births had occurred.

With regard to the keratitis in this case, it commenced in the girl's left eye, about six weeks before her admission, and in the right two weeks later. She is still under treatment.

Case LXIV.—Interstitial keratitis and typical teeth—Tertiary syphilis in the mother.

The subject of the following case was a girl, aged 12, whom I saw casually in going through the wards of one of our larger hospitals. The surgeon under whose care she was, was just dictating to his clinical clerk a diagnosis of "Strumous ophthalmia," when I remarked to him that the teeth were such as I was in the habit of considering characteristic of hereditary syphilis. My observation would, I believe, have been regarded only as an instance of hobby-riding had it not chanced that the girl's mother, who had, with her, been admitted that



These teeth (the upper set) are exceptional in the want of symmetry, only one of the central incisors is notched, the other being of good size and form. The lateral incisor and the canines of the right side are also notched. It is remarkable that the notching occurs in three teeth on one side, and in none on the other.

morning, occupied the adjacent bed. The woman's scalp was seamed with the depressed scars of old nodes, and over her right shoulder, arm, etc., were large serpiginous ulcers, about the true nature of which there could be no doubt whatever. She denied, however, having ever to her own knowledge, suffered from primary disease. The nodes had occurred nine years ago. The patient was her eldest and only living child. Three younger ones had died in infancy.

Case LXV.—Keratitis of the right eye—Recovery—Keratitis of the left eye six months later—Aspect of hereditary syphilis and suspicious family history.

William H. H., aged 7, was brought to the Hospital by his father, a remarkably robust-looking policeman, Dec. 1, 1858. The boy's puny and delicate aspect contrasted most remarkably with that of his father. He had a large head, a broad nose, scars on the lips, and a fissure on the dorsum of the tongue. He was stated to have been always delicate, and was much under medical treatment in infancy on account of snuffles and an eruption on the forehead and about the nates. The first attack in his eyes had occurred about eight months ago when the right eye was affected, and he attended at this Hospital for four months. The right cornea had now perfectly cleared, but during the last ten days the left had become hazy and opaque (ground glass). The iris was not affected.

History of the patient's family.—No direct question was asked of either parent. His father was healthy looking, but his mother was rather delicate. His mother had borne six children, of whom only two were living. The eldest was a girl and died in infancy, and the patient was the second. One born subsequently suffered from rather suspicious symptoms.

Under mild treatment by iodide of potassium and the mercurial ointment the left cornea quickly recovered.

Case LXVI.—Double keratitis—Aspect of hereditary syphilis—Tonic treatment—Severe and prolonged attack.

James W. O., an orphan and only child, aged 15. Aspect of hereditary syphilis most marked, skin pale and earthy, numerous small scars about the mouth, slight psoriasis on the cheeks. He was deaf of the right ear, from which he had formerly had purulent discharge. During six months past he had had enlarged glands in the neck. The keratitis began almost simultaneously in the two eyes in

May, 1857, and the attack was a very severe one. There was no evidence that the iris had been implicated. In January, 1858, both corneaæ were still hazy, although they had greatly improved; the left was the worse. The boy had attended for six months at the Hospital. The treatment had chiefly been tonic and expectant. He had not been under my own treatment.

Case LXVII.—Double keratitis—Aspect of hereditary syphilis and history of infantile symptoms—Specific treatment—Rapid recovery of the cornea—Node on the ulna.

George B., aged 16, was admitted in January, 1858. His aspect and teeth were very characteristically those of hereditary syphilis. He was hoarse and rather deaf. His mother stated that he had been a very ailing baby, and had suffered from snuffles very badly, with sore mouth and ulcerated lips. At the same time he had sores at the anus. Being exceedingly puny he was not weaned until three years old, and it was not until that age that he first began to walk. He had more recently suffered from ulcerated sore throat, and a large scar remained on the soft palate. His eyes had never been inflamed until the present attack which commenced about a month ago. Both eyes were affected. In both, the condition of diffused keratitis was well marked, but in the centre of the left cornea was a small scooped-out ulcer. Iodide of potassium in seven-grain doses three times a day was prescribed together with the inunction of the mild mercurial ointment behind the ears and on the neck. Within a fortnight there was very decided improvement, and ultimately both corneaæ cleared.

In the following July, George B., came under my care on account of a node on the left ulna. Both his corneaæ were at that date perfectly clear with the exception of a slight film in the centre of the left.

History of the patient's family.—George B., was the eldest living in a family of three. Four had been born

before him, all of whom died in early infancy. Of three born since, one had died.

Case LXVIII.—Double keratitis—Aspect of hereditary syphilis—Typical teeth—History of syphilis in the father.

Sarah Matilda G., aged 8, of very marked physiognomy and with most characteristic teeth. Her right eye had suffered slightly two years ago, at which time the left also became inflamed. The right cornea wholly cleared, but a large interstitial opacity remained in the left, and several relapses have subsequently occurred. When admitted (in February, 1860) it was on account of a relapse in the left eye. It was attended with much intolerance of light. Under treatment by full doses of iodide of potassium the opacity cleared to a considerable extent, but whilst under observation a slight relapse in the right occurred. It lasted however only a short time.

The patient's family history.—Her mother was dead, and a very imperfect history as to her infancy was attainable. She was the fourth child in the family, but the only living one. Three older than herself and one younger had all died in infancy, and in several, suspicious symptoms were stated to have occurred. Her father stated that he had twice before marriage suffered from chancres, and on one occasion from badly ulcerated sore throat. He had been quite well for several months before his marriage, and had had no symptoms since.

Case LXIX.—Double keratitis of great severity—History of infantile syphilis—Keratitis in one of the patient's sisters.

George C., aged 10, was admitted February 13, 1860, with very extensive interstitial opacities in both corneæ. In the right the centre of the cornea was thinned over the opacity and on the point of giving way. The attack had commenced four months ago, and had been very severe. The upper central incisor teeth were long and divergent, with

their corners rounded off, and a broad notch in the centre of each. The other teeth were not much deformed.

Patient's family history.—His mother had been married twice. By her first husband she had had thirteen children of whom the three last born were living, the eldest of them being the subject of this case. The ten were born at the full time, but none lived longer than a few days. By the second husband she had three children. The first of these was born dead, and the others died soon after birth. She herself had bad eyes when an infant, and there remained large opacities in the cornea. She had lost part of the left upper jaw and several teeth. George C., was born a fine healthy baby, but at the age of one month he began to suffer from rash on the nates, arms, legs, and face. He had "bad snuffles, and had the throat very bad for two or three months." His father was stated to be a very healthy man, except that he suffered from "scurvy."

One of this boy's younger sister's subsequently came under care at the Hospital for interstitial keratitis.

Case LXX. — Double keratitis — History of infantile syphilis—History of constitutional syphilis in the boy's father.

Hugh L., aged 8, admitted for interstitial keratitis, November 3, 1859. A boy of fair complexion and delicate looking. He had then only the temporary teeth except the two lower central incisors. The keratitis was in the typical ground-glass condition. It began in the right eye one month before admission. His father who brought him was a very robust-looking man. He admitted however that he had had chancres followed by constitutional symptoms before marriage (fourteen years ago). He was salivated mildly, and was, as he believed, quite cured, and had been well ever since. He was not aware that his wife ever suffered from any specific symptoms. She never had good health after her marriage, and died of pleurisy five years subsequently. She never miscarried. She bore six children of whom the first four died

within a month after their birth. Of the two living, Hugh is the eldest. When an infant he had symptoms for which he was treated at the Hospital for Diseases of the Skin, by Mr. Startin. The younger child was quite well, but had had a slight rash.

Case LXXI.—Double keratitis—Typical teeth, &c.—History of constitutional syphilis in the boy's father.

Charles B., aged 15, admitted October 10, 1859. The right eye became affected first, about one month before admission, and a fortnight later the left also. The disease became well marked, and the teeth were typical. Iodide of potassium was given, and mercurial ointment was directed to be rubbed in. On March 29, he was nearly well.

Patient's family history.—His father owns to having had a chancre followed by bubo, for which he took mercury. He had afterwards a rash. He subsequently married, being at the time in good health. His wife was pregnant six times. On the first occasion she had a girl, who lived to the age of 15, and then died of "consumption." The second was a girl, who was still living aged 18, and reported healthy. The third was still-born. The fourth lived three months, "it had no tongue or roof to its mouth." The fifth, a boy living, aged 16, and reputed healthy. The sixth, the subject of this case.

Case LXXII.—Remains of double keratitis—Adhesions of iris—Characteristic teeth.

Harriett H., a girl from a workhouse, aged 16. Large, permanent, symmetrical opacities in both corneæ. Irides of good colour. The pupils are large and irregular, and pigment is deposited in their centres. The attack of keratitis began when she was five years old. She then attended at the Ophthalmic Hospital for some months. Teeth notched, peggy, and very characteristic.

She has two brothers and one sister, all younger than herself.

Case LXXIII.—Remains of double keratitis—History of infantile syphilis—Disease of the knee joint.

Eliza B., aged 8. Remains of double keratitis with bulging of the corneæ. Fissures at the angles of the mouth. Her teeth were considered typical of hereditary syphilis. The child had had destructive inflammation of the right knee joint. She was the second child born; when six weeks old she began to suffer from rash all over, and had snuffles very badly. She was treated by Dr. Rees, who said that her complaint was venereal. The mother stated that she had said (as she said to me), that "she knew nothing about such a disease," yet Dr. Rees persisted in his opinion, and treated the child by grey powder, under which treatment he recovered. The mother was very cachectic. She had borne four children. The first died at the age of $4\frac{1}{2}$ years of dropsy. The second was the subject of this case. The third died of dropsy after scarlet fever. The fourth was an eight months' infant, and died at the age of ten days "wasted away."

Case LXXIV.—Double keratitis—History of infantile symptoms, and also of syphilis in both parents.

Elizabeth M., age 13, was admitted June 15. Keratitis of the right eye, with very little vascularity and no iritis. It began a fortnight before. She had never previously suffered from bad eyes. Her teeth were very irregular, stumpy, and the central upper incisors were notched, her nose was sunken, features heavy, and forehead protuberant. Iodide of potassium and mercurial inunction were prescribed. A month later the left eye also became affected.

Patient's personal and family history.—Her mother had had two children before this one. She then had sores on her genitals "very badly," and afterwards ulcerated sore throat, but no rash. Four years later, during which interval she had been ill on and off, Elizabeth M. was born. Within a few weeks of birth "the disease" broke out in the baby, and "she was a terrible sufferer from it." She had a very

severe and lasting eruption on the nates, and also "thrush" in the mouth, which "went through her," and made both mouth and anus very sore. Next an abscess formed on her side, which discharged for three months, and has left a puckered scar. This scar looked like that of a discharged empyema. There was, however, very little flattening of the side. She had ever since been liable to cracks on the lips, &c.

The mother took mercury, and she thinks the child did too. The disease in both was considered by their medical attendant to be syphilitic.

Case LXXV.—Opacities in both corneæ—Aspect of hereditary syphilis, and history of suspicious symptoms in infancy—Teeth of good size and form.

The following is a case exceptional in some particulars to the usual history of interstitial keratitis, more especially in that the teeth were large and well formed. I only saw the patient on one occasion, and the following is an exact copy of the hurried notes then taken.

Ellen T., aged 19, single. Left cornea with dense cicatrices. Right cornea diffusely hazy. Fissures and scars at angles of mouth. Nose broad; complexion pale and peculiarly faded. Several small scars on the forehead. Teeth very good, large, and well formed. Liable to much pain in the bones. Scars on the soft palate, extending to each tonsil. Constantly liable to eruption of impetigo, and to soreness at angles of mouth. Mother has had eleven children, of whom eight are living. Ellen is the fourth. As a baby she was healthy, and her mother does not recollect that she had either rash or snuffles. The keratitis began at the age of nine, and has relapsed within the last month.

Case LXXVI.—Remains of double keratitis—Characteristic teeth—History of suspicious symptoms in infancy.

Thomas C., aged 32. In this case the suspicion as to the history of hereditary syphilis was caused by the state of

the teeth. The man's physiognomy was not suspicious. He was tall and well developed. His teeth were, however, of the syphilitic type. The jaws were contracted, the teeth were of very bad colour, and the gums were much absorbed. There were large corneal opacities, the result of keratitis at an early age. He was then "nearly blind" for some time. His face was well formed, and the bridge of the nose was not in the least sunken. His eldest sister, who nursed him, stated that in infancy he had very troublesome sores at the anus, and was for long under medical treatment on account of them. The skin at the verge of the anus still shows numerous linear scars, the result of bygone fissures. He also had "thrush" in the mouth. He was liable to psoriasis about the anus and on the thighs, and often had small ulcers on the skin, and had much aching in the shins. There were also scars in the velum palati. He had taken mercury for his eyes. He is the third of nine living out of thirteen births. All of them are described as having been ailing, very delicate infants, many of them liable to rashes.

Mr. Bowman, Mr. Critchett, and Dr. Bader saw this patient, and all considered that the diagnosis was fully established.

Case LXXVII.—Double keratitis—Characteristic physiognomy—History of infantile symptoms, and of syphilis in both parents.

Honora P., aged 9. Of pale complexion, and physiognomy typical of hereditary syphilis; admitted October, 1859. Her teeth were remarkably peggy. The upper incisors were not notched, but the angles were worn away, and the teeth stood apart. Both cornea were hazy. The anterior chambers, especially the right, were very large. She could not see to read, but could distinguish colours. She is rather deaf when she takes cold. She has never had any discharge from the ear.

History.—For the first month after birth she appeared healthy, and after that she had a violent "stoppage in the

nose' and "lumps" in the sides of the neck. She had a discharge of yellow matter from each nostril. About the age of 2 or 3 her legs "came out in ulcers," below the knees. She was treated by mixtures and powders, and recovered, and remained well until a little before her eyes became "bad." Before this, too, she had measles, of which she got quite well. She then (about February, 1858), had a very sore throat and enlarged glands. Before attending at Moorfields, she had been treated for the keratitis for a period of more than a year, at various institutions. At one of them iodide of potassium was prescribed.

Family history.—Her mother had been separated from her husband for five years, on account of his giving her "the disease" twice. She had had sore throat and discharge, but no rash. Her husband had had both rash and ulcerated throat. The first time the mother had discharge was before the birth of her first child. She had had no miscarriage. She had had three children; the first was still-born, the second was the subject of this case, and the third was born with "ulcers on the hands," and died the next morning.

Case LXXVIII.—Keratitis of the right eye—Hydrocephalus and idiocy—Characteristic teeth and physiognomy.

Mary F., aged 8, was admitted September 1, 1859, for specific keratitis of the right eye. She was hydrocephalic, partly idiotic, and very talkative. Her first teeth were very small and much decayed. She had just cut one permanent upper central incisor, which was characteristic. Her nose was sunken and very broad. She had small scars on the skin of the face, and fissures at the angles of the mouth. Her tonsils were large, and much pucker'd. The glands under the jaw were swollen. Dr. Bader confirmed my diagnosis of hereditary syphilis.

The cornea quite cleared under treatment by cod liver oil, and she could see well with both eyes at the date of her discharge.

History.—When a week old she had fits, and her head rapidly increased. She was five years of age before she was able to walk. Her mother had had eight children, of whom three only are living. Of those living, the two eldest, aged 25 and 22, are healthy. One is in the army and one in the navy. The third living is the present patient. The five dead died in infancy of "fits." The mother denied any history of syphilis, but stated that her husband was a very drunken man.

LXXIX.—Characteristic teeth and suspicious physiognomy—History of an attack of ophthalmia, probably keratitis.

Henry P., aged 18, applied at the Hospital in April, 1859, for displaced puncta. His corneaæ were then perfectly clear, and he could see the smallest type. He said that more than a year ago he had been blind for some time from inflammation of the eyes (probably double interstitial keratitis). Although he was well grown and florid, I recognized certain peculiarities in his physiognomy which I thought characteristic of syphilis. On looking at his teeth this suspicion was amply confirmed. They were most characteristic. Dr. Bader agreed with me that there was no doubt as to the diagnosis, as far as teeth and physiognomy could go to establish it. I did not see the lad's parents, and no history as to infantile symptoms was therefore obtained.

Case LXXX.—Insterstitial keratitis in both eyes—History of infantile symptoms — Characteristic teeth—History of syphilis in the patient's father.

The following narrative is of especial interest, from containing the history of a brother and sister, both the subjects of inherited syphilis in a severe form, and only the elder of whom has as yet suffered from interstitial keratitis.

Anna P., aged 15, and Robert P., aged 13. The history which their mother gave was as follows:—Her first conception resulted in a miscarriage at a very early period.

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Anna P., the elder of the two patients, was the first living child, and was born about fourteen months after marriage. On account of symptoms presented by the baby, Mrs. P.'s husband was questioned, and he acknowledged that he had had the venereal disease before his marriage, but stated that he believed himself quite cured. He had been under a long course of treatment. He had shown no symptoms whatever since his marriage, nor had his wife had any. Robert P. was the second living child. After that twins were born, both of whom died "of measles" in childhood. The last infant was born about four years ago, and died at the age of six weeks "of a kind of wasting," suffering at the time from severe inflammation of the eyes.

Thus it will be seen that the two children are the only living ones out of six conceptions. Anna P., the elder one, when a few weeks old, had "a dreadful bad mouth and sore face." "The disease also broke out below, and she was very sore." She had "thrush," but no snuffles. Although she is now quite deaf, her mother does not recollect that she ever suffered from otorrhœa. The deafness began about three years ago. Her eyes first inflamed when she was eleven years old. She was in Australia at the time. The attack was a severe one, and she was blind, or nearly so, for upwards of five weeks. At present she is a well-grown girl, and has a fair complexion and a good nasal development. In both corneæ are clouds of opacity. There are scars extending from both angles of her mouth. Her upper central incisors are notched in a very characteristic manner.

Robert P. (two years younger than his sister), is of most marked physiognomy, his nose being sunken and skin pale and earthy. When a baby he is said to have had large sores round the mouth, which were long troublesome; he had also "very bad snuffles." Afterwards, at the age of two years, he had jaundice, and was treated by grey powders. His upper teeth of the first set decayed early, and fell out. He was for some years without incisor teeth in the upper jaw. About two years ago, he had a badly ulcerated throat, by

which his uvula, soft palate, etc., have been extensively destroyed. At present there is only a small opening, about capable of admitting a quill, which communicates with his nares, the palate being united by cicatrix to the posterior pharynx. During the last two years he has often complained of aching pain in the right arm, and the lower part of his right humerus is greatly enlarged and very hard. Many of his cervical glands have enlarged, and a few have ulcerated. As might be expected in a younger child, his teeth are not nearly so characteristically malformed as those of his sister. His upper permanent incisors are long and almost craggy looking, as if of hard structure. They present, however, crescentic portions in their free edges, which are thin and broken. His lower incisors are deeply serrate, and are also coated with yellow fur, as if mercury had been used in early life.*

LXXXI.—Keratitis of one eye—Typical teeth—History wanting—Node on the tibia.

Julia C., aged 11, admitted June 30, 1858, for keratitis of the left eye only. She did not exhibit any marked peculiarities of physiognomy, except that her complexion was brownish-yellow, and that there were a few faintly marked fissures at the corners of her mouth. Her teeth were however well marked. The left cornea was very opaque, with dots of white in some parts of considerable size. There was some sclerotic congestion, and much intolerance of light. Her mother had died five years ago. There were in the family three older than herself, and two younger. One brother had lost the sight of one eye. Her elder sister who brought her was very healthy looking. She does not remember that Julia ever suffered from any particular symptoms until the age of six years, when a swelling formed over

* For some remarks on "Mercurial Teeth" see my Paper in the Transactions of the Pathological Society for 1858-9, page 211, and Fig. 8 in Plate IX. of that volume.

the left tibia and broke. There remained, when I saw her, a large osseous node, ulcerated at its most prominent part.

LXXXII.—Effects of by-gone keratitis in both corneæ—History of infantile symptoms—Typical teeth.

Mary B., aged 8. Remains of keratitis in both corneæ. The eyes first inflamed two years ago. She was florid and of good complexion; forehead large. The teeth were very irregular, and the upper central incisors were deeply notched. She had also fissures at the angles of the mouth and on the lips. When a month old she had a rash on the nates and body, and very bad snuffles, and a sore mouth. She was treated by a surgeon, who gave her a powder every night and morning.

Case LXXXIII.—Severe Double keratitis—History of infantile symptoms, and of syphilis in the child's parents.

George M., aged 6. Double keratitis with much bulging of the corneæ. Both corneæ opaque. Enlarged glands under the jaw. Teeth typical. Excepting that he had had purulent ophthalmia in infancy, his eyes had been quite good until three months before his admission. Whilst a baby he had thrush very badly. He had also a troublesome eruption and snuffles. He was, according to his mother's statement, treated for the venereal disease.

His mother stated that during her first pregnancy she had sores on the genitals, and afterwards a badly ulcerated throat, which the surgeon who attended her said was venereal. She was still liable to ulcerated sore throat, and had when I saw her, syphilitic sores on the gum and cheeks. The subject of this case was her first child. The second died sixteen hours after birth. The third was living, aged 4, and except being liable to "dry scurvy" on the head, was quite well. The fourth, a baby whom she brought with her looked quite healthy.

Case LXXXIV.—Kerato-iritis in the right eye—History of an attack in the left two years before—Destruction of the soft palate—Glandular disease—Characteristic physiognomy.

William S., aged 15, admitted for keratitis of the right eye. The cornea was flattened, and very opaque in patches. The iris looked ragged, and spots of lymph are apparent in the anterior chambers. The globe was slightly softened, as was also the left. He could with the right eye only just distinguish light. All active inflammation had passed by. Two years ago he had attended at the Hospital for inflammation of the left eye. This eye was now well, but chronic inflammation of the lachrymal sac had remained ever since. He could, however, see perfectly with the eye. He was a pale unhealthy looking lad. There were many scars and pits about the face. He had never had small-pox. There were scars at the oral angles. Head ill-shapen. The soft palate was destroyed, and a large dense cicatrix occupied its place. He had had glandular swellings in the neck, and one year ago he had ulceration of the throat, which lasted for twelve months. His mother had been married twice. By her second husband she had had four children, of whom two were dead. Of the two living, the elder was grown up, strong and healthy, the younger was the subject of this case.

Case LXXXV.—Double keratitis of mild form—Typical teeth, but good physiognomy.

Eliza S., aged 20, florid and healthy looking, of good physiognomy, admitted November 17, 1859, for specific keratitis of the right eye. She stated that the left eye had begun to inflame in March. It got well in six weeks. In May both were affected in the same way. She says that they again got well in June. The attack for which she attended now commenced in October. The cornea was hazy, the teeth were typical. Two had been born before herself, and had died in childhood. There were six living of whom she was the eldest.

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Case LXXXVI.—Remains of interstitial keratitis—Indications of hereditary syphilis well marked in an elder sister.

The boy who is the subject of the following case is a younger brother of the patient in Case XXXIII. Although he also had suffered from keratitis, the diathesis of hereditary syphilis was, as might be expected, much less marked than in his elder sister.

Daniel B., aged 14, of florid complexion, features tumid, fissures at the angles of the mouth. As to teeth, complexion, and in other respects the conditions were much less marked than in his sister. His eyes began to be affected three years ago. He said that they were at one time, when he was in the workhouse, very bad, and that he was then blind for months. When admitted the left cornea was quite clear, but the right remained hazy in the centre. He did not wish to be treated considering that his eyes were as well as usual.

Case LXXXVII.—Interstitial keratitis in both eyes at the age of eight—Relapse eight years afterwards in the right eye—Characteristic physiognomy and teeth—History of syphilis in the patient's parents.

Elizabeth F., aged 18. The aspect of hereditary syphilis was not well marked. She had, however, scars at the angles of the mouth, in the palate and on both tonsils. Ten years ago she attended at Moorfields, for what appeared to have been keratitis, and was "blind for three months." When I saw her, very slight opacity of the left cornea remained, but the right was acutely inflamed. Her teeth were very typical.

Elizabeth F., was the seventh child, but was the eldest living, the previous six having all died in infancy. She had one brother and two sisters living. Her mother told me that twenty-four years ago she contracted "the venereal disease" from her husband, which was followed by a rash. It did not appear that any of her children except one, who died in infancy, had ever had any rash.

Case LXXXVIII.—Opacities from interstitial keratitis—Typical teeth and characteristic physiognomy—History wanting.

The subject of the following case, a young lady aged about 12, was sent to me by my friend Mr. A. Coleman, who considered her teeth to be characteristic of hereditary taint, an opinion in which I fully agreed with him. I obtained the following particulars (Feb. 6, 1860). She was born quite healthy looking, but began to waste at a month old, and had snuffles. She was ever afterwards a puny fretful baby, she had "water on the head," and took mercury, (the head is now very large). She did not walk until two years old. She subsequently had discharge from the left ear, and is still slightly deaf on that side. When five years old she had double and severe ophthalmia, which—as it made her practically blind for several months; lasted a long time; never relapsed, when once well; and had left dots of opacity still present in the substance of both corneæ,—was in all probability interstitial keratitis. When I saw her her irides were of steel metallic hue, and wanting in lustre. She had a long-drawn physiognomy and a bad scurfy skin with some appearance of fissures at the angles of the mouth. She was the eldest child. Her mother, whom I saw, had well-shaped teeth, and her father also was reported to have good teeth.

Taking all these facts together, I considered that the diagnosis was fully made out. No direct questions were asked. A year later, I learnt from Mr. Coleman that several nodes had made their appearance on the child's head.

Case LXXXIX.—Severe interstitial keratitis—Typical physiognomy and teeth—History of infantile syphilis—Great benefit from specific remedies.

Ann W., aged 10. Was admitted August, 1857, for severe interstitial keratitis of both eyes, with some vascularity. The attack commenced four months previously. The pupil did not dilate well under atropine. She had the

best marked syphilitic physiognomy that I ever saw, and the teeth were most characteristic. Her skin was dry and stretched looking, the features were pinched, and there were deep fissures at the angles of the mouth.

During about four months' treatment by mercurials and iodides this girl received great benefit. She was before so nearly blind that her friends were using interest to get her into an asylum for the blind. She could at the date of my last note see to read large letters, and I believe she afterwards improved much further. I learnt from her mother that, as an infant, when sixteen months old she was under Mr. Macmurdo's care for severe attack in which the right eye only was affected. At a that time she had a very sore mouth ("fifteen or sixteen gashes in the lips all laid open" is her mother's expression). Seven elder children all died under the month. They all died with rash and thrush, which latter "went through them." In infancy Ann W. had thrush very badly, rash in the skin "dreadfully," and "snuffles in the nose very bad."

Case XC.—Double keratitis. Characteristic physiognomy and teeth.

George C., aged 12, admitted for double keratitis of two months' standing. The bridge of the nose was much sunken, and his physiognomy and teeth were very markedly characteristic of hereditary syphilis.

His mother had had seven children. The present patient was the first born. The next two died. The other four are reported healthy. Of the deaths, one infant was still-born, and one died nine weeks after birth.

Case XCI.—Double keratitis. Characteristic physiognomy and teeth—History of syphilis in the patient's mother.

Ann H., aged $8\frac{1}{2}$, was admitted for double keratitis of one month's duration. Her eyes had never been affected before. The right began first. Both corneæ were extensively opaque, the inflammation had advanced very rapidly, and

Case LXXXVIII.—Opacities from interstitial keratitis—Typical teeth and characteristic physiognomy—History wanting.

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His mother had had seven children. The present patient was the first born. The next two died. The other four are reported healthy. Of the deaths, one infant was still-born, and one died nine weeks after birth.

Case XCI.—Double keratitis. Characteristic physiognomy and teeth—History of syphilis in the patient's mother.

Ann H., aged $8\frac{1}{2}$, was admitted for double keratitis of one month's duration. Her eyes had never been affected before. The right began first. Both corneæ were extensively opaque, the inflammation had advanced very rapidly, and

there was extreme intolerance. Her nose was broad, and her aspect generally was tolerably well marked.

Her mother had been married twice. Soon after the first marriage she had sores, followed by rash, and was treated for it by a surgeon who salivated her; she had ever since been in usual health. Her husband soon after the first symptoms appeared to be in good health. He was killed by an accident. Her first child, a boy, died with specific rash, wasting, &c., at the age of twenty months. The second, a girl, died at the age of three weeks, "she wasted away." The third, (Ann), had rash, sore anus, &c., and was very ill for long.

Case XCII.—Double keratitis—Good teeth and physiognomy—No history.

Elizabeth M., aged 11, admitted November 12, 1860, for keratitis in the left eye, and commencing disease in the right. The left began three weeks before. Her teeth were quite perfect, the physiognomy presented nothing remarkable, except that the skin was coarse.

The patient, when a baby at the age of six months had a rash (four or five spots on one arm), which continued for twelve months, she was however, otherwise in good health, and until her eyes became inflamed had never been ill. Her father denied having ever had the venereal disease. Her mother was in good general health, but was subject to ulcers on the legs, from the knees to the ankles. When I saw her she had them in one leg only, but she had had them on both. She had been subject to them for seven years. She had been pregnant nine times; the first, resulted in miscarriage; the second and third in still births at the full time; the fourth child died one month after birth, of "inflammation of the chest;" the fifth (the eldest living), is the subject of this case; the sixth and seventh are living and healthy; the eighth died of small-pox; the ninth and last, a baby eleven months old, is living and healthy.

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This case approaches the nearest to an exception to the rule that I have yet seen. Although the form of keratitis was certainly interstitial, yet the patient's teeth and physiognomy were not peculiar, and no history could be obtained. I felt in much doubt as to the diagnosis.

XCIII.—Interstitial keratitis of the right eye—Typical teeth—History wanting.

Jane B., aged 11, was admitted in December 1860. Her physiognomy was suspicious, but by no means typical. Her upper central incisors were, however, characteristically notched; her head was large, the bridge of the nose sunken, and there were patches of psoriasis on the face. The right cornea only was affected, and the inflammation which had existed two months was not severe, not having passed beyond the ground-glass stage.

History of patients family.—I did not see her mother, and the following facts were all I could obtain from her aunt, who came with her. Her mother's first conception resulted in miscarriage. The patient was the eldest child, the second and third were living, but two born subsequently had died in infancy.

Case XCIV.—Latent hereditary syphilis—Keratitis at the age of twenty-one—A single Typical tooth.

William P., a boatman, aged 21, a tall young man, extremely pitted by small-pox. Mr. Dixon, drew my attention to him on account of well-marked keratitis of the right cornea, and old iritic adhesions in the left pupil. The keratitis was interstitial, and of a week's duration. The adhesion of the left pupil was a single broad band, and in the adjacent iris was a portion in which the structure was deficient by dragging, looking much as if there had been a wound. The man, however, said that he had never had an injury. Both eyes had, he said, been excellent until a week ago, with

the left he could still read No. 1 ("brilliant"). His nose was good, but his face was so universally and deeply pitted by small-pox, that the other features of the syphilitic physiognomy were masked. I ventured the opinion that the keratitis was specific, and that he had probably had iritis of the left eye in infancy. On looking at his teeth we found that the lower set were good in form and colour, and all the upper ones also, excepting the right central incisor, which was narrow and notched, and a most typical one. The left central incisor was broad and of good colour and length, and without the slightest trace of notch.

I learnt that he was the eldest of his family, and that he had two brothers and a sister younger than himself, none of whom had ever suffered from their eyes. He had had small-pox at the age of one month, before vaccination, and very severely. At that time he was blind for a month. He had had good health ever since infancy, and presented no other symptoms. He had not been out of health lately. This case suggests the question as to what might be the probable effects of small-pox at the age of one month in modifying the state of constitution in a syphilitic infant. Here the attack of keratitis had been unusually delayed.

I rest the diagnosis on the facts that the form of keratitis was typical, that it occurred in conjunction with a typical tooth, and with evidences of bygone iritis in the other eye. Many observers saw the case, which excited at the time much interest.

XCV.—History of iritis in infancy—Extensive synechiae—Interstitial keratitis at the age of four—History of infantile iritis.

Emma C., aged $6\frac{1}{2}$ years, was admitted September 1857. She was not well grown, and had the aspect of congenital syphilis, moderately well marked. Both corneaæ were extensively nebulous. She could but just see to go about. Both irides were adherent, and the pupils irregular, and there were

films of lymph crossing both pupils. There was no congestion, and the state was quite that of past disease. Her eyes "gummed-up" early in infancy, and very soon after she had inflammation "of the balls, not of the lids." She used to cry and lie awake at night, and never could bear the light. She attended under Mr. Bowman's care when an infant, and at intervals had been a patient at the hospital ever since. Her health when I saw her was better than it had ever been before.

On September 5th, iodide of potassium in doses of one grain three times a day was prescribed. On December 4th, the eye was much clearer, and she could see to read large print, and to sew.

XCVI.—Opacities in both corneæ, with synechiae from iritis—Typical teeth and suspicious physiognomy—History imperfect.

Elizabeth J., aged 27. She was almost stone deaf. The defect in hearing commenced at the age of six, and her eyes began to inflame about the same time. She was well grown, her nose was wide and misshapen; the teeth were very typical. She spoke hoarsely. Her palate was tied up on each side of the uvula by adhesions. Both corneaæ were hazy from interstitial deposit, and the pupils were small and irregular, and dilated very little by atropine. She could find her way about in the day, but not in the dusk or by candle-light. She had never learned to read, but said that she could see the letters.

I learnt the following facts from the patient's stepmother. Elizabeth had measles when six years old. Up to that time she was believed to have been healthy. Her mother (now dead), had seven children, of whom Elizabeth is the eldest. Three of them died. Four are now living, and all these latter, except Elizabeth, are healthy. Of the three deaths, one died in infancy, another recently of "consumption," it is not known what the third died of.

Case XCVII.—Double interstitial keratitis—Teeth and physiognomy characteristic—History of symptoms in infancy—An elder brother also the subject of the same diathesis.

David McK., aged 10, was admitted under my care in February 1861. Both his corneaæ were in a well characterised state of interstitial inflammation. His central upper incisors were dwarfed and notched, and his physiognomy was very marked. In going into his history, I learnt that he had an elder brother, and requested that the latter might be brought to see me. On April 14 both brothers attended, and excited much interest amongst all who were present. The elder George McK. (aged 12), presented in all his physiognomical peculiarities an exaggeration of those seen in his brother. His skin was thicker, and of a more earthly pallor, and that of his face was covered with psoriasis; his nose was broader, the scars at the angles of his mouth were more conspicuous, and his upper central incisors were more deeply notched. He had, however, good sight, and it did not appear that he had ever suffered from interstitial keratitis; his hearing was also good.

The following is the family history, as obtained from their maternal aunt, who brought them to the Hospital. Their mother is dead, and father living in India. The mother's first conception resulted in a miscarriage. George K. was the first born alive; he was very ill during the whole of infancy, suffering from rashes, &c. When four years old he had a severe inflammation of one eye, but the other was not affected; the inflamed eye recovered perfectly, and no traces of the attack are now visible. David K. was the second child, and like his brother, suffered much in infancy. His eyes remained sound until the present attack. No other children were born.

It is a circumstance of much interest that the elder brother in this instance should hitherto have escaped an attack of keratitis. In all probability he will at some future time suffer from it. It is scarcely likely that the attack

described, since it affected but one eye, occurred so early, and has left no trace behind it, was the true form of the disease.

In David K., the use of the iodide of iron, and of inunction of the mild mercurial ointment was productive of great benefit. His corneæ have now (May, 1861), almost cleared.

Case XCVIII.—Interstitial keratitis at the age of 21—Typical teeth and physiognomy—Latent hereditary taint, brought into activity by Asthenia lactantium.

My attention was drawn to the subject of the following case by Mr. Beddard, Mr. Streatfeild's clinical assistant. Mrs. M., a fairly healthy-looking woman, age 21, applied at the hospital in May, 1861, on account of interstitial keratitis of the left eye. The left cornea was rendered wholly opaque by clouds of interstitial deposit, and a broad fringe of vessels spread over its upper part. The attack had lasted six weeks. the other eye was rather irritable, but nothing more. This was the first attack at the time of its commencement; Mrs. M. was much reduced by nursing her second baby. As stated above, Mrs. M. was a fairly healthy-looking woman. Her physiognomy presented nothing peculiar. The condition of the teeth, however, fully confirmed the suspicions excited by her eye. Her upper central incisors were most characteristically notched and dwarfed. Most of the other incisors and canines, both of upper and lower sets, were also dwarfed and of very peculiar type. Mr. Dixon saw the case, and expressed himself as not feeling any doubt as to the correctness of the diagnosis. Mrs. M. stated that she was the second of her family now alive. An elder brother was, as far as she knew, quite healthy. She had herself had good health until the present inflammation of the eye. She had been married three years; her first infant died at the age of five weeks; her second one, aged twelve months, is living, and of very healthy appearance.

This case is one of extreme interest; 1st, as an example

of *latent* hereditary taint, for the patient had not suffered from any special symptom until adulthood; 2ndly, as an instance of hereditary taint, brought into activity by a debilitating influence (over lactation); 3rdly, an account of the usefulness of the teeth as a means of diagnosis, the woman's physiognomy not presenting any peculiarities, while the state of the teeth was most characteristic. It must be borne in mind that no opportunity occurred for enquiry as to symptoms in infancy.

Case XCIX.—Heredito-Syphilis—Epileptiform fits with peculiar symptoms—Double keratitis—Characteristic teeth and physiognomy.

Alfred O., aged 19, a well-grown lad, but of characteristic physiognomy and teeth. He states that he had good health until he was about eleven years old, when he became liable to a peculiar form of epileptic paroxysms beginning in the left side. His account of these fits is as follows:—The fit seized him suddenly one day when out walking; his left leg was affected by painful spasm, which in a short time passed up his side. He did not on that occasion lose consciousness. Since then the fits have recurred with very varying frequency. Once whilst residing in the country he was a year without having any attack. All the fits begin by spasm either in the left leg or left arm. The limb attacked shakes violently, and the muscles are drawn into knots. This is very painful, and after a while he falls and becomes insensible. The insensibility has on some occasions lasted several hours, and he always has sickness and headache on recovery. He has never experienced the slightest spasm in the right side of the body. Most of his attacks are not attended by unconsciousness, but consist only of spasmodic contortions of the leg or arm, which after from three to five minutes cease, and the limb drops. Any slight excitement, a false step in the street, a sudden noise, &c., will bring on these spasms. He feels a constriction about

his throat during them, and is obliged to tear open his neck-handkerchief. He is not aware of the existence of any particularly irritable spot, pressure on which will cause the spasms. His muscles are well developed, and I can discover no wasting or want of symmetry.

The teeth are as typical as any I have ever seen.

Eyes.—Until a year ago his sight in the right was perfect, the left being not so good. He was then attacked by interstitial keratitis. It began in the right and soon afterwards affected the left also. He attended at Moorfields for some months. At present both cornea are diffusely opaque, the right much the more so. He can see to read with the left.

History of his family.—His father died ten years ago, mother still living. An elder sister, who would now have been 24, died of phthisis a few years ago. The second child died young. The third, a boy, is now living, aged 21, is in bad health, has according to report malformed teeth and a cataract in one eye, for the latter he has been under much surgical treatment. He was not born with it, and it did not form until he was some years old. The fourth, a girl, died young. The patient, Alfred O., is the fifth and youngest living. One younger than himself died. There is a second family of young children.

Alfred O. is well-grown; bridge of nose good; head symmetrical; skin thick, yellow, and pitted; deep fissures in lips. He has been under my care for a month, and thinks he has been much better since taking the iodides of potassium and iron. He had previously been under Dr. Parker's care for the fits. He has been accustomed to work in tobacco, but does not think it injures him.

Case C.—Aspect, &c., of constitutional syphilis in a married woman—Remains of keratitis and iritis in both eyes.—Typical teeth—Deafness.

In the following some of the conditions present might easily have been referred to acquired syphilis, the patient

being an adult. The state of the teeth, however, enabled me to arrive at a confident opinion as the hereditary origin of the taint.

Susan B., aged 26, a married woman was admitted on account of impaired vision. Both corneæ were extremely opaque, especially in their lower halves, and both pupils were irregular from adhesions. The right pupil was very much contracted, but the left, although puckered at its margin, was of full size. The bridge of her nose was sunken, as if bone had been lost. Her hair was very thin, and she was quite deaf, having formerly suffered from otorrhœa. The thinness of hair, the adherent pupils, suggested acquired syphilis, and the flattened nose might have been caused by loss of bone. On looking at her teeth, however, I found them stumpy, pegged, and notched, indeed of a most characteristic type. Her complexion was of a faded yellow, and the skin of the face shewed numerous little pits, there were also fissures at the angles of the mouth. These conditions, taken together with the deafness and the keratitis confirmed the diagnosis which the teeth had indicated.

The woman had come up from the country, and I could obtain only the following imperfect facts as to the history of her family. Her mother had borne seventeen children, of whom seven were still living. Of those living three are older than the patient herself, and three younger. One child was stated to have died at the age of ten, being nearly blind, and of complexion, teeth, &c., closely resembling the patient. Mrs. B. herself had been married five years, but had never conceived.

Case CI.—Double interstitial keratitis—History of syphilis in both parents—No history of infantile symptoms.

The cases detailed in the following narration affords us an instance of deviation from the ordinary rule in respect to hereditary syphilis, that the oldest child born after the acquirement of the taint suffers most.

Susan C., aged 12, was admitted May 9, 1861. Both corneæ were extensively opaque from interstitial keratitis. Her teeth were very irregular in development, but not typically notched. Their malformations were, however, symmetrical. The upper central incisors were both of them marked by a sort of crescent, but were more of the "craggy" type than of the usual form in syphilis. The lateral incisors had wholly escaped, but both canines showed truncated extremities and small central gemules. The lower incisors were all of them peggy in form and foliated at their extremities. Her head was large and hydrocephalic, and there were patches of psoriasis on her face. Her mother told me that Susan C. was her fifth child; the three elder ones had all died in infancy, and the fourth was a boy now living and reported healthy. I asked to see her brother, and he was accordingly brought at the next visit. Thomas C., aged 13, was a well-grown lad of healthy aspect. His corneæ were perfectly clear, and he had never suffered from any form of ophthalmia. His teeth were large and of good colour; the only suspicious point about any of them being that the angles of the central upper incisors were somewhat rounded off. The right lower canine showed a central gemule, but all the others had good crowns. His nose was a little broad, and there were a few pits in the skin of his forehead. Taken altogether, however, there was nothing either in his physiognomy, teeth, or eyes, to warrant a suspicion of hereditary syphilis. His tongue presented a very peculiar condition. It was somewhat swollen, and fissured deeply in all directions across the dorsum, with bald patches and white markings exactly like what we so often see on the tongues of those suffering from acquired constitutional syphilis.

Such being the puzzling state of symptoms in the two children, I thought it warrantable to put a direct question to their mother. It will be seen that one child had the typical form of keratitis, but no other symptom, and the other a syphilitic tongue and no other symptom. Their mother at once admitted that she had suffered from syphilis soon after her marriage. She had sores, followed by rash and

sore throat, and was treated at an hospital and salivated. Both her husband and herself had, since their recovery from secondary symptoms, remained quite well. The mother denied that either of her children had presented any suspicious symptoms in infancy. This statement was quite in accordance with the absence in both of the usual features of the syphilitic physiognomy.

Case CII.—Interstitial keratitis—Typical teeth and physiognomy—History of infantile symptoms of syphilis in the father.

The following case is one of especial value as an illustration of the accuracy with which in certain cases the peculiar form of struma, which is consequent on hereditary syphilis, may be recognized.

A stout, well-grown girl (Mary T.), aged 18, was brought up from Norfolk by her father on account of her eyes. She presented herself amongst Mr. Dixon's out-patients on May 24, 1861. Her cheeks were pallid and flabby, bridge of nose flattened, and there were fissures at the angles of her mouth. Her forehead was large and misshapen. Both cornea were diffusely opaque from interstitial deposit. Mr. Dixon stated to the students that from the state of her eyes and her peculiar physiognomy he felt no doubt that her teeth would be found of the syphilitic type. Before looking at the latter, he also gave me an opportunity of joining in the confident expression of the same opinion. On inspection the teeth proved to be most characteristic.

The father of Mary T. attended with her; he was a robust countryman, the picture of good health. I took him aside, and at once put the direct question to him. He told me that prior to his marriage (twenty years ago) he contracted a chancre, for which he was treated by mercury, and after which secondary symptoms followed. He thought himself well when he married, but during his wife's pregnancy he had sores on his toes, which a medical man told him were venereal, and for which he was again salivated. From that time to the present he had never had any

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symptoms whatever. His wife's first pregnancy resulted in a dead birth, her second about a year later in the birth of Mary T. The latter in infancy suffered from the usual symptoms. Seven children had been born subsequently, and were all living. Some of the elder ones had also suffered from suspicious symptoms. The father denied most positively that he had ever communicated the disease to his wife.

It appeared probable that an attack either of iritis or of choroidal disease had occurred in the left eye in infancy, as the girl said that she had never been able to see with it. She had now no perception of light when the right was covered. The right cornea had been inflamed only eight months.

GENERAL COMMENTS AND SUMMARY.

I have already remarked that the preceding series of 98 cases has a certain claim to a statistical character inasmuch as I have, without selection, taken all the cases which have come under my notice. The desire to include all must be my excuse for recording several the data of which are very imperfect. In now proceeding to analyze the series, my task divides itself naturally into three parts.

In the first place, I wish by the strict application of the numerical method to obtain a more closely accurate account of the disease known hitherto as "Strumous Corneitis," its symptoms, its usual course, and its ulterior results. Having thus sketched its natural history, I shall, secondly, ask the reader's attention to the statement of my reasons for believing that it is a direct consequence of hereditary syphilis, and occurs solely in the children of parents, one or both of whom has suffered from venereal disease. The question as to treatment will lastly come under notice, and I shall have to show that the prognosis may be materially bettered by the adoption of mild specific measures, instead of, or in addition to, the usual remedies for "struma."

Before proceeding with this examination, however, I shall consult the reader's convenience by placing the cases before him in the following table.

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TABULAR STATEMENT OF ONE HUNDRED AND TWO

No. of Case.	Sex.	Age at the date of outbreak.	Age at admission.	Which Eye affected.	Patient's position in his or her family.		Whole number of births in family.	Number of Children now living.	Grounds of	
					In order of birth.	Amongst those now living.			Concomitant Diseases in the Patient.	
1	M	4	4	Both	10th	6th	11	7	—	
2	F	2	14	Both	No note	1st	10	6	—	
3	F	11	12	Both	No note	2nd	10	6	—	
4	F	—	12	Both	2nd	1st	6	4	Tinea tarsi. Deafness	
5	M	1	14	Both	No note	No note	No note	5	—	
6	F	18	18	Both	No note	1st	10	2	—	
7	F	11	11	Both	2nd	1st	4	2	Nodes. Lachrymal abscess. Swelling of both knee joints. Headaches and epilepsy	
8	F	12	16	Both	No note	1st	7	4	—	
9	F	13	15	Both	No note	No note	7	4	—	
10	M	11	11	Both	No note	1st	11	3	Node on the tibia	
11	M	18	18	Both (R.L.)	No note	2nd	7	3	—	
12	F	12	16	Both (L.R.)	1st	1st	No note	No note	No note	
13	F	5	6	Both	No note	No note	6	2	No note	
14	M	16	16	Right	1st	1st	No note	No note	Nodes. Chronic abscesses, and enlarged glands	
15	M	8	8	Both	1st	1st	3	1	—	
16	F	18	18	Left	No note	3rd	No note	7	—	
17	M	—	14	Both	No note	3rd	No note	4	—	
18	F	—	20	Both	1st	1st	No note	No note	—	
19	F	1	6	Both	4th	1st	4	1	—	
20	F	2	4	Both	4th	2nd	5	3	—	
21	M	14	14	Both	1st	1st	6	4	Nodes. Suppurated glands. Exfoliation of alveolus	
22	F	8	8	Both	1st	1st	3	3	Deafness (after otorrhœa)	
23	F	19	19	Both (R.L.)	Note	No note	No note	No note	—	
24	M	8	21	Both	No note	No note	No note	No note	Complete deafness (after otorrhœa)	
25	F	23	23	Left	No note	2nd	No note	No note	—	
26	M	10	12	Both	2nd	1st	4	2	—	
27	M	8	8	Both	1st	1st	3	3	Deafness (after otorrhœa)	
28	F	8	8	Left	No note	2nd	14	7	Scars in palate	
29	F	9	20	Both	7th	1st	11	5	Nodes	
30	M	18	22	Both (R.L.)	No note	No note	No note	No note	—	
31	F	8	8	Both (L.R.)	No note	1st	9	2	—	
32	F	11	11	Both (R.L.)	No note	1st	8	2	—	
33	F	14	17	Both (R.L.)	No note	No note	15	5	Partially deaf (after otorrhœa)	
34	M	3	6	Both	3rd	1st	5	5	Suppurated glands in the neck	
35	F	—	15	Both	1st	1st	13	8	—	
36	F	4?	9	Both	4th	1st	9	1	Nodes. Laryngeal and pha-geal ulceration. Tinea tarsi	

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CASES OF INTERSTITIAL KERATITIS.

Diagnosis.				Remarks.	No. of Case.
Teeth.	Physiognomy.	Infantile History.	Parents' History.		
First set	Characteristic	Very suspicious	Denied	The cornea cleared in about two months.	1
Characteristic	Characteristic	Denied	Syphilis in both	Two sisters; the diathesis most characteristic in the elder.	2
Suspicious	Characteristic	Denied	Syphilis in both		3
No note	Characteristic	Conclusive	Suspicious	No direct questions asked.	4
No note	Characteristic	Suspicious	Not enquired into	It is doubtful whether the disease really commenced at so early a period.	5
Characteristic	Characteristic	No note	Denied	The cornea cleared in about two months.	6
Characteristic	Characteristic	Very suspicious	No direct questions asked		7
Characteristic	Characteristic	No note	Not enquired into	Two sisters; their mother did not attend, so that no history could be obtained.	8
Characteristic	Characteristic	No note	Not enquired into		9
Characteristic	Characteristic	Suspicious	Not enquired into	Rapid improvement under specific treatment.	10
Characteristic	Suspicious	Suspicious	Syphilis in the father	Great improvement under specific treatment.	11
Characteristic	Characteristic	Conclusive	Syphilis in both	Great improvement under specific treatment.	12
First set	Characteristic	Very suspicious	Not enquired into	Very decided improvement under treatment by iodides.	13
Suspicious	Characteristic	Conclusive	Syphilis in both	Great benefit from specific treatment.	14
Characteristic	Normal	Conclusive	Syphilis in the mother	The mother had had syphilis before her marriage.	15
Characteristic	Characteristic	Not enquired into	Not enquired into	Her eldest brother had probably had keratitis.	16
Characteristic	Suspicious	Not enquired into	Not enquired into	A sister had also had inflamed eyes.	17
Characteristic	Not characteristic	Suspicious	History of syphilis in the father	The cornea cleared perfectly under specific treatment.	18
First set	Characteristic	Conclusive	Syphilis in both		19
First set	Characteristic	Conclusive	No direct questions asked	It is doubtful whether the disease was true interstitial keratitis at its commencement.	20
Exfoliated	Characteristic	Conclusive	Syphilis in the father	Her elder sister had also suffered from infantile syphilis.	21
Second set not cut	Characteristic	Conclusive	Conclusive	The cornea cleared perfectly under specific treatment.	22
Characteristic	Characteristic	No note	No note	The patient was married, and keratitis appeared to have been induced by sucking	23
Suspicious	Suspicious	Conclusive	Conclusive	The patient was married, and keratitis appeared to have been induced by sucking	24
Suspicious	Suspicious	Not enquired into	Not enquired into		25
Characteristic	Characteristic	Denied	Denied	Her elder sister had also suffered from inflamed eyes.	26
Characteristic	Characteristic	Suspicious	Denied	A relapse in the left eye occurred a year after apparent recovery.	27
No note	Characteristic	Suspicious	No direct questions asked	Effects of specific treatment very decided.	28
Characteristic	Characteristic	Suspicious	Syphilis in both parents		29
Characteristic	Characteristic	Conclusive	No note	Effects of specific treatment very decided.	30
No note	Characteristic	Conclusive	Not enquired into		31
No note	Characteristic	Suspicious	Not enquired into	Some of the other children had also suffered from symptoms of infantile syphilis.	32
No note	Characteristic	Suspicious	Not enquired into		33
First set	Characteristic	Suspicious	Not enquired into	The right cornea was staphylomatous.	34
No note	Characteristic	Conclusive	Syphilis in both parents	Some of the other children had also suffered from symptoms of infantile syphilis.	35
No note	Characteristic, nose wholly destroyed	Suspicious	Not enquired into		36

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TABULAR STATEMENT OF ONE HUNDRED AND TWO

No. of Case.	Sex.	Age at the date of outbreak.	Age at admission.	Which Eye Affected.	Patient's position in his or her family.		Whole number of births in family.	Number of Children now living.	Grounds of Concomitant Diseases in the Patients.	
					In order of birth.	Amongst those now living.				
37	F	10	11	Both	No note	1st	No note	1	Ulceration of nose and soft palate	
38	F	6	15	Both	1st	1st	3	3	Deafness. Destruction of the soft palate and aphonia	
39	F	6	17	Both	3rd	1st	10	4	Destruction of the soft palate and nose	
40	F	9	9	Both	2nd	No note	6	3	—	
41	F	5	19	Both	No note	No note	No note	No note	Complete deafness (after otorrhœa). Psoriasis on the face	
42	F	7	8	Both	No note	No note	No note	No note	Destruction of the nose and palate	
43	F	11	14	Both (L.R.)	1st	1st	1	1	Nodes on both tibia	
44	F	10	10	Both	No note	No note	No note	No note	—	
45	F	14	14	Left	No note	1st	No note	5	—	
46	M	14	16	Both	No note	1st	3	—	—	
47	F	12	14	Both	No note	No note	No note	No note	Periosteal pain in the head	
48	F	12	12	Both (L.R.)	1st	1st	5	3	—	
49	M	15	15	Both	1st	1st	2	2	—	
50	M	7	10	Both	No note	3rd	14	3	—	
51	M	7	7	Both	No note	No note	No note	No note	Hoarseness	
52	F	7	14	Both	No note	No note	No note	No note	—	
53	M	11	11	Both	No note	2nd	No note	No note	—	
54	F	16	19	Both (L.R.)	No note	2nd	15	7	—	
55	M	13	14	Both	4th	4th	7	5	—	
56	F	14	17	Both (R.L.)	4th	No note	9	7	—	
57	M	10	13	Both	1st	1st	3	3	Deafness (after otorrhœa)	
58	M	8	12	Right	5th	1st	6	2	Deafness (after otorrhœa)	
59	M	20	26	Both	2nd	1st	7	6	—	
60	M	10	12	Both	2nd	2nd	2	2	—	
61	F	13	17	Both (R.L.)	No note	3rd	9	3	Deafness (after otorrhœa). Ulcer on the lip	
62	F	15	15	Both (L.R.)	2nd	1st	11	8	—	
63	F	12	12	Both	3rd	1st	3	1	—	
64	F	12	12	Both	1st	1st	3	1	Enlarged glands in the neck.	
65	M	7	7	Both (R.L.)	2nd	1st	6	2	Deafness in one ear (after otorrhœa)	
66	M	14	15	Both	1st	1st	1	1	—	
67	M	16	16	Both	5th	1st	8	3	Hoarseness and deafness. Scar on the palate. Node on the ulna	
68	F	6	8	Both (R.L.)	4th	1st	5	1	—	
69	M	10	10	Both	11th	1st	16	3	—	
70	M	8	8	Both (R.L.)	5th	1st	6	2	—	
71	M	15	15	Both (R.L.)	6th	3rd	6	3	—	
72	F	5	16	Both	No note	1st	No note	3	—	
73	F	7	8	Both	2nd	1st	4	1	Ankylosis of one knee joint	
74	F	13	13	Both (R.L.)	3rd	3rd	3	3	—	
75	F	9	19	Both	4th	No note	11	8	Scars in the soft palate. Periostitis. Impetigo	
76	M	10	32	Both	No note	3rd	13	9	—	

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CASES OF INTERSTITIAL KERATITIS.

diagnosis.				Remarks.	No. of Case.
Teeth.	Physiognomy	Infantile History	Parents' History.		
No note	—	Denied	Syphilis in both parents	The taint appeared to have been latent until the age of 10.	37
No note	Characteristic	Conclusive	Conclusive	None	38
No note	Nose wholly destroyed	Denied	Denied		39
No note	Characteristic	Conclusive	Not enquired into		40
No note	Characteristic	Not enquired into	Not enquired into	There was probably disease of the choroid as well.	41
No note	No note	No note	No note		42
No note	Characteristic	Not enquired into	Both parents dead		43
No note	Characteristic	Very suspicious	Suspicious	Mother in a lunatic asylum.	44
Characteristic	Characteristic	No history	No history	Mother in a lunatic asylum.	45
Characteristic	Characteristic	Not enquired into	Not enquired into		46
Characteristic	Suspicious	No note	No note		47
Characteristic	Characteristic	Conclusive	Syphilis in both parents		48
Characteristic	Characteristic	Not enquired into	Syphilis in father	His sister also had suffered from iritis.	49
Characteristic	Characteristic	Conclusive	Suspicious (denied)	His elder sister had also suffered from eye disease.	50
Almost normal	Characteristic	No history	Not enquired into	{ The patients were a brother and	51
Characteristic	Characteristic	No history	Not enquired into	sister. The elder one as usual had suffered much the more severely.	52
Characteristic	Suspicious	Not enquired into	Not enquired into	His elder brother had his physiognomy and teeth yet more characteristic of hereditary taint.	53
Characteristic	Almost healthy	Not enquired into	Not enquired into		54
Characteristic	Characteristic	Conclusive	Syphilis in both parents	His elder brothers and sister had suffered from infantile symptoms with one exception. See page 73.	55
Characteristic	Characteristic	No note	No note		56
Characteristic	Characteristic	No note	No note		57
Characteristic	Characteristic	No note	Syphilis in both parents	Several children born prior to the disease in the parents. See page	58
Peculiar (see page 77)	Characteristic	Conclusive	Not enquired into		59
Characteristic	Almost that of health	Not enquired into	Not enquired into		60
Characteristic	No note	No note	No note		61
Characteristic	Characteristic	Conclusive	Syphilis in both parents		62
Characteristic	Characteristic	Not enquired into	Syphilis in the mother		63
First set	Characteristic	Suspicious	Not enquired into		64
Characteristic	Characteristic	No note	No note		65
Characteristic	Characteristic	Conclusive	Not enquired into		66
Characteristic	Characteristic	No note	No note	Both parents dead.	67
Characteristic	Characteristic	Conclusive	Not enquired into	Great benefit from specific treatment.	
Characteristic	Characteristic	No note	History of syphilis in the father	Her mother was dead.	68
Characteristic	Characteristic	Conclusive	Very suspicious	A younger sister also suffered from interstitial keratitis.	69
First set	Suspicious	Conclusive	Syphilis in father		71
Characteristic	No note	No note	Syphilis in father	An orphan.	72
Characteristic	Characteristic	Not enquired into	Not enquired into		73
Characteristic	Characteristic	Conclusive	Denied		74
Characteristic	Characteristic	Conclusive	Syphilis in both	The patient was the first child born after the parents had had syphilis.	
Of good form	Characteristic	Denied	Not enquired into		75
Characteristic	Not characteristic	Suspicious	Not enquired into		6

TABULAR STATEMENT OF ONE HUNDRED AND TWO

No of Case.	Sex.	Age at the date of outbreak.	Age at admission.	Which Eye affected.	Patient's position in his or her family.		Whole number of births in family.	Number of Children now living.	Grounds of Concomitant Diseases in the Patient.
					In order of birth.	Amongst those now living.			
77	F	8	9	Both	2nd	1st	3	1	Rather deaf. Enlarged glands
78	F	8	8	Right	No note	3rd	8	3	Hydrocephalic and idiotic. Enlarged glands
79	M	16	18	Both	No note	No note	No note	No note	—
80	F	11	15	Both	1st	1st	5	2	Complete deafness
81	F	11	11	Left	4th	4th	6	6	Osseous node on the tibia
82	F	6	8	Both	No note	No note	No note	No note	—
83	M	6	6	Both	1st	1st	4	3	Enlarged glands in neck
84	M	13	15	Both (L.R.)	No note	2nd	4	2	Destruction of the soft palate. Enlarged glands. Inflamed lachrymal sac
85	F	20	20	Both (L.R.)	3rd	1st	8	6	—
86	M	11	14	Both	No note	2nd	15	5	—
87	F	8	18	Both	7th	1st	10	4	Ulceration of palate
88	F	5	12	Both	No note	No note	No note	No note	Nodes on the head. Hydrocephalus. Slight deafness
89	F	10	10	Both	8th	1st	8	1	—
90	M	12	12	Both	1st	1st	7	5	—
91	F	8	8	Both, R.L.	3rd	1st	3	1	—
92	F	11	11	Both, R.L.	5th	1st	9	4	—
93	F	11	11	Right	2nd	1st	6	3	Psoriasis in the face
94	M	21	21	Right	1st	1st	4	4	Iritic adhesions in the other eye
95	F	6	6	Both	No note	No note	No note	No note	Both pupils closed by iritic adhesions
96	F	6	27	Both	1st	1st	7	4	Deafness; adhesion of the palate after ulceration
97	M	10	10	Both	2nd	2nd	2	2	—
98	F	21	21	Left	No note	2nd	No note	2	Epilepsy
99	M	18	19	Both, R.L.	5th	2nd	6	2	—
100	F	26	26	Both	No note	4th	17	7	Deafness; Iritic adhesions
101	F	12	12	Both	No note	2nd	2	2	—
102	F	18	18	Both	2nd	1st	9	8	Choroidal and iritic disease in the eye

1. *Age.*—It would appear that in a very large proportion of cases this form of keratitis occurs in patients between the ages of 8 and 15. Thus we find that in seven instances the disease began before the age of 5, in thirty between 5 and 10, in thirty-nine between 10 and 15, in sixteen between 15

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CASES OF INTERSTITIAL KERATITIS.

Diagnosis.				Remarks.	No. of Case
Teeth.	Physiognomy.	Infantile History.	Parents' History.		
Suspicious	Characteristic	Conclusive	Syphilis in both		77
Characteristic	Characteristic	Suspicious	Denied by mother	It is probable that syphilis was contracted subsequent to the births of the elder children.	78
Characteristic	Suspicious	Not enquired into	Not enquired into	A younger brother also suffered from hereditary syphilis.	79
Characteristic	Not characteristic	Conclusive	Syphilis in father	A brother had lost one eye	80
Characteristic	Not characteristic	Not enquired into	Not enquired into		81
Characteristic	Not characteristic	Very suspicious	Not enquired into		82
Characteristic	Characteristic	Conclusive	Syphilis in both parents		83
No note	Characteristic	Not enquired into	Not enquired into		84
Characteristic	Not characteristic	Not enquired into	Not enquired into		85
Characteristic	Characteristic	Very suspicious	Not enquired into	His eldest sister (see Case 33) had also had keratitis.	86
Characteristic	Not characteristic	Denied	Syphilis in both parents		87
Characteristic	Characteristic	Very suspicious	Not enquired into		88
Characteristic	Characteristic	Conclusive	Not enquired into	A very severe case	89
Characteristic	Characteristic	Not enquired into	Not enquired into		90
No note	Characteristic	Conclusive	Syphilis in both parents		91
Normal	Not characteristic	Doubtful	Denied	Some doubt as to diagnosis (see page 98)	92
Characteristic	Suspicious	Not enquired into	Not enquired into		93
One typical tooth	Suspicious	Small pox when a year old	Not enquired into	An unusually interesting case (see page 99)	
First set	Characteristic	Suspicious	Not enquired into	Has had iritis in infancy	95
Characteristic	Characteristic	Not enquired into	Not enquired into	Has had iritis in childhood	96
Characteristic	Characteristic	Conclusive	Not enquired into	His elder brother also shewed the characteristic physiognomy and teeth of hereditary syphilis	97
Characteristic	Normal	Not enquired into	Not enquired into	The epileptiform seizures were peculiar (see page 101)	98
Characteristic	Characteristic	Not enquired into	Not enquired into	This patient was married	99
Characteristic	Characteristic	Not enquired into	Syphilis in both parents	Her elder brother suffered also from hereditary syphilis	100
Suspicious	Suspicious	Denied			101
Characteristic	Characteristic	Suspicious	Syphilis in the father		102

and 20, and in the remaining six between 20 and 25; the average age for the whole series being 10. The disease would appear to be comparatively rare in early childhood, and still more so after adult age has been reached. I have never seen it commence in any one beyond the age of 26.

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(Case 100). With regard to several cases in the series in which it is stated to have begun in infancy, I feel some doubt as to the correctness of the history, as I did not see the patients until some years after its commencement. No doubt the eyes were inflamed at the date assigned by the mothers of the patients, but whether the affection was from the first true interstitial keratitis is open to some question. I have never myself witnessed its occurrence earlier than the age of two years. (Case 20.) When it occurs in very young patients its course is rarely so typical and regular as it usually is in older children.

2. *Sex.*—It would appear that girls are more liable to this disease than boys. Thus in sixty-four of the cases before us the patients were females, and in only thirty-eight males, being a ratio of 1 of the latter to 1.7 of the former. This disproportion, though not so great, coincides with what I have shown to be the fact in respect of the acute iritis of syphilitic infants. Of the latter disease I am in possession of the particulars of twenty-three cases in which the sex is specified, and of their subjects eighteen were female infants, and only five males.*

3. *State of health at the time of outbreak.*—In none of the preceding cases is it stated that the outbreak of keratitis had occurred during recovery from small-pox or any other exanthem, nor is there any note of other causes of ill health supposed to have acted as predisponents. In none of the cases was there any reason to suppose the patient to be the subject of phthisis or other tuberculous affection, and amongst the coincidents "conspicuous by their absence" (supposing the affection to be "strumous,") is enlargement of the lymphatic glands. In only eight cases did any affection of the cervical glands exist, and in several of these it was very slight. On the other hand, the series presents very few exceptions indeed to the following statements: *a. That the patients were*

* Twenty-one of the cases referred to are recorded in a previous chapter. Two other cases have come under treatment whilst these sheets were passing through the press.

of peculiar pallor. In most the complexion was of a pale earthy or sallow hue, without a vestige of colour, and in none of the exceptional cases was there any degree of the excessive floridness so commonly seen in the subjects of glandular struma. *b. That the skin generally, and that of the face especially, was thick, coarse, and flabby.* These conditions are intended to be comprised whenever the term "syphilitic physiognomy" is used. I have never employed the latter expression except to denote a striking and remarkable condition, such as would, from its peculiarity, have arrested the attention of the most cursory observer. *c. That the bridge of the nose was wide and depressed.* This also is included whenever the above term has been used. *d. That in the skin of the face there were numerous small pits and scars, and about the angles of the mouth the radiating scars of former ulcerations.* The common non-specific eruptions of childhood,—impetigo, porrigo, and eczema,—leave no perceptible scars whilst their syphilitic congeners almost invariably do. Small-pox, chicken-pox, and herpes, undoubtedly do cause pits and scars which are often undistinguishable from those of the syphilides: the conjunction of fissures at the oral angles with little pits in the skin of the face, a history of no one of these three affections being obtainable, is, however, very suspicious. *e. That, in those who had cut their permanent set, the condition of the upper central incisor teeth was very peculiar, both in form, colour, and size.* As diagnostic of hereditary syphilis, various peculiarities are often presented by the other teeth, especially the canines, but *the upper central incisors are the test teeth.* When first cut these teeth are usually short and narrow from side to side at their edges. In the edge is a crescentic portion, thinner than the rest, which after a time breaks away, leaving a broad, shallow, vertical notch (see figures, Cases 50 and 53), which is permanent for some years, but between twenty and thirty usually becomes obliterated, by the premature wearing down of the tooth. The two teeth often converge, but sometimes they stand

widely apart. In certain instances in which the notch is either wholly absent or but slightly marked, there is still a peculiar colour, and a narrow squareness of form, which are easily recognised by the practised eye. In a considerable number of the cases cited, no mention is made of the teeth, the notes having been taken before I was aware of the value of these peculiarities as a symptom. I have latterly, however, made it a rule always to look into the mouth, and, as yet, I have not met with a single example of well characterized interstitial keratitis, occurring in both eyes, in which the teeth were of normal size and shape. Indeed there can be no doubt whatever, as to the truth of the assertion, that this malformation of the upper incisors (permanent set) is all but invariably found in the subjects of this disease. A few months' observation at any large Ophthalmic Hospital will, I think satisfy any one of this clinical fact.

The following special affections were coincident with the keratitic disease. Large scars in the soft palate and pharynx, in eleven instances. Deafness, consequent on otorrhœa, in seventeen. Nodes in nine (tibia, four; radius, two; head, two; ulna, one). Psoriasis on the face in four. Destruction of the nose by erosive lupus in three. Suppurated glands in the neck in three. Laryngeal disease in four. Tinea tarsi in four. Swelling of the knee-joint in three. Inverted eyelids in one. Lachrymal abscess in three. Exfoliation of the alveolus of the upper jaw in two.

4. *Previous history, more especially as regards infancy.* In more than half the cases, a clear history of the occurrence of symptoms of inherited syphilis in infancy (rash, sore mouth, ulcers at anus, prolonged snuffles, etc.) was obtained. This proportion would probably have been much increased, but that in many cases I was unable to see the patient's mother, or any one who could answer questions on this head. In several, which I have not included in it, there was a history of one or more very suspicious symptoms; the group, however, not being sufficiently complete to allow of a confident statement. In numerous instances the mothers

admitted that some of their other children had also suffered from similar symptoms in infancy. Many of those cases in which I was unable to obtain a history or to make inquiry as to infantile symptoms, are those in which the physiognomy, teeth, etc., were most characteristic. The frequency of otorrhœa, ulceration of the palate, etc., has already been stated.

5. *History of syphilis in parents.*—Those who have engaged in similar inquiries will feel no surprise at the fact that in twenty-nine cases only, did I obtain from the parents a free admission that one or both had, prior to the birth of the child, suffered from venereal disease in a constitutional form. Of these, in eighteen instances, the mother had been infected by her husband, and both were consequently diseased; in eight the father only was known to have had the disease; in two the mother had had syphilis before marriage, and believed the husband to be healthy; and in the remaining one there was a statement (probably untrue) about the communication of the disease to the infant by a tainted nurse. In about half of the cases, I either had no opportunity of asking questions on this score of either parent, or did not avail myself of it. In several instances syphilitic symptoms existed in one or other parent at the time that the notes were taken, and this class includes some in which, notwithstanding, all history of primary disease was denied. In a few cases, in which I could obtain no confession, the mother admitted that other medical men, who had attended her children in infancy, had asked the same questions.

6. *Estimate of viability of the patients' family.*—Very important information may be reflected upon many of the questions connected with inherited tendencies to particular forms of disease, by data as to the mortality which has prevailed amongst the brothers and sisters of the subjects of them. If the death-rate during childhood has been excessive there are grounds for believing that the taint is of a kind which materially diminishes the vital power and predisposes to the

attacks of fatal diseases. With the view of affording information on this point in relation to the subjects of interstitial keratitis I have inserted columns in the preceding Table showing how many children had been born in each family, how many were still living, and the position of the patient amongst them, *i.e.*, whether eldest, second, third, etc. The latter datum, as will presently be shewn, is of especial importance. In calculating the average I find seventy-seven only of the cases sufficiently complete to be used. In counting the number of children born to any one mother, I have included dead births, if at the full time. Miscarriages and premature births have been, of course, omitted.

Proceeding on this plan, we find that seventy-seven mothers of subjects of interstitial keratitis, (the latter being at the time of inquiry of the average age of nine and a-half), had born families averaging seven in number, but which had been reduced by death to an average of 3·4. Seventy-seven mothers had born a total of 547 children, and of these only 284 remained alive. In other terms, seventy-seven patients suffering from interstitial keratitis pass before us, and we find, on enquiry that, taking one with another, they have all lost in early life nearly half of their brothers and sisters. There can be little doubt, despite the many fallacies to which statistics expose us, that this rate of mortality is high.

7. The patients are generally the eldest in their respective families.

By examination of the seventh column in the tabular series, we find that there are 82 cases in which information is given as to the patient's position amongst the other living children of his parents.

Of these 82 cases the patient was,

The Eldest in 55 instances, a proportion of 1 in 1·5

Second in 14 " " 1 in 6

Third in 9 " " 1 in 9

Fourth in 3 " " 1 in 27

Fifth in 1 " " 1 in 82

This curious fact is made yet more impressive if we turn

our attention to the ninth column also. We there find that these 82 subjects of keratitis are the representatives of 284 brothers and sisters, or in other words that the number in each family averaged 3·4. We of course count only those living at the time the notes were taken. Now it is clear, that supposing the 284 children put together and a group of 82 drafted from them without any selection, this group ought to contain, of the eldest of their respective families, a proportion of only 1 in every 3·4. The tabular statement just given shows how different is the result in the cases before us, and demonstrates that interstitial keratitis in choosing out its victims, has some principle which guides its selection.

It would appear, moreover, that not only does the disease select the eldest in a large majority of instances, but that it proceeds downwards by the same rule, preferring the second to the third, and so on. This statement of fact, strong as it is, would be yet further strengthened if two sources of fallacy could be removed: 1st, that in certain instances, the primary disease had probably been contracted by the parent after the birth of part of his family, and that thus the patient, although not the eldest of the whole, was the eldest of those born subsequent to the taint being acquired.—2nd, that in several instances in the series, both the eldest and the second child suffered from keratitis, and are included in the table.

Why the first born should suffer most often, and most severely, from a disease consequent upon syphilis in the parent, we can easily understand; it is in keeping with all that we know respecting the transmission of that disease. On the "strumous" hypothesis, however, to the exclusion of inherited syphilis, I think I may fairly challenge any one to offer a shadow of explanation of the remarkable facts just adduced.

8. *Phenomena of the attack.*—The phenomena of interstitial keratitis have been well described by several authors. I have given a brief *résumé* of them at page 29, and need not here attempt any lengthy description. The series under

consideration, however, supplies us with several cases, in which less usual, and hitherto but little noticed, conditions were presented. The cases in fact divide themselves into four groups, according as one or other of the special symptoms of inflammation were in prominence.

Group A includes the more common cases, in which interstitial deposit, without any great degree of sclerotic or conjunctival vascularity, is the prominent symptom.

Group B comprises those cases in which, in addition to the interstitial deposits of lymph, crescentic fringes of capillaries are seen spreading from the circumference over the surface of the cornea. These fringes usually commence at the lower part, but subsequently encroach from all parts, and sometimes nearly, or altogether, meet in the centre of the cornea. In the latter event, I have seen produced a remarkably vivid colouring of the whole surface. The degree of lachrymation and of intolerance of light, present in any given case, will usually be found proportionate to the extent of these fringes.

Group C has been described at page 72, and is illustrated by three or four cases only in the present series. In these there is a large effusion of lymph, in all probability from the posterior surface of the cornea, moulding itself in the concavity of the latter, and causing for the time complete blindness. Hitherto I have never seen the superficial vascularity characteristic of Group B, coexistent with this state of things. After this form of disease, I suspect that the eyes are always more or less damaged permanently.

Group D is characterized by the punctate effusion of lymph, in circumscribed dots on the posterior layer of the cornea. This condition is often seen in iritis, consequent on acquired syphilis; it also constitutes a most characteristic feature of what is known as aquo-capsulitis, as distinct from interstitial keratitis. In a few cases of the latter affection however, it occurs as the first stage, to be followed sooner or later by effusions into the substance of the cornea itself.

Although I have mentioned these varieties as distinct

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groups, yet it must be understood that they not unfrequently stand in the relation of stages one to the other. The more severe conditions included in Groups B and C are, for instance, rarely produced, without either those of A or of D having preceded them.

The occurrence of iritis, as a complication in cases of interstitial keratitis, although not unfrequent, is, I believe, far from being usual. The obscuration of the cornea is commonly so quickly produced, that it becomes impossible to inspect the state of the iris, after the first week or two of the attack, and during that period, I have very rarely indeed been able to detect any evidence of the iris being affected. On recovery, the pupil is usually quite round and mobile, though not unfrequently the iris structure itself has lost much of its lustre, and looks dull and leaden. I have but rarely seen the pupil occluded. When iritis does occur, it is usually of but slight severity, and attended with but little tendency to effusion.

In most cases interstitial keratitis affects both eyes, and with almost equal intensity. Both were involved in ninety-one of the one hundred and two cases under consideration; in six the left alone, and in five the right alone. Out of thirty-five, in which the notes inform us as to which was first attacked, we find the left to have been so in seventeen instances, and the right in eighteen. Of twenty-six, in which like information is given, as to which was most severely affected, it is the left in seventeen, and the right in nine.

As in most other symmetrical diseases, it is rare that the two organs are attacked quite simultaneously. The second is, I believe, usually affected from a few days to a few weeks subsequently to the first. Now and then, however, the interval is much longer. Thus in Case 43, a period of two years intervened, and in Case 31, one of four months. Case 26 is interesting as an instance of acute relapse in one eye, two years after the beginning of the attack, and when both had seemed to be nearly recovered. Several other instances

of relapses, more or less acute, are scattered through the series, but they are decidedly exceptional. Ordinarily, when once the process of clearing has set in, it is remarkable how steadily it advances.

I will now place in concise juxtaposition the chief reasons which induce me to regard interstitial keratitis as a direct result of inherited syphilis.

1st. From its being a very well-marked and peculiar form of ophthalmia, it is *à priori* probable that it acknowledges some single and definite cause.

2nd. Its subjects are almost invariably of very peculiar physiognomy, and usually bear the most marked similarity to one another.

3rd. Its subjects almost invariably have their upper central incisor-teeth, of the permanent set, dwarfed and notched in a peculiar and characteristic manner.

4th. In most cases the features alluded to under the last two heads bear no resemblance whatever to those of "struma" properly so called. On the contrary, the subjects of tuberculous struma, usually have large white teeth, and are often of a florid complexion.

5th. I have not yet seen a single case in which the patient was the subject of phthisis, and but very few in which suppuration of the glands of the neck had occurred.

6th. It affects by preference the eldest living child of the family, a circumstance to be expected under the syphilitic hypothesis, but wholly inexplicable under that of struma.

7th. It affects female children in preference to males, and usually occurs in families in which a large infantile mortality has taken place.

8th. It occurs in all classes of the community, the well-fed and under-fed, and the residents in the most healthy situations (sea-coast, etc.), as well as those of crowded cities.

9th. In a large proportion of those cases in which I thought it right to make direct inquiries on the subject, I obtained a confession that one or other parent had suffered

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from constitutional syphilis prior to the birth of the patient.

10th. In a very large majority of those cases in which I obtained information as to the health of the patient during early childhood, a clear history of the usual symptoms of infantile syphilis was given.

11th. In many instances there was a clear history of symptoms of infantile syphilis having been observed in brothers or sisters of the patient.

12th. Whilst, as above observed, enlargements of the lymphatic glands are unusual, other affections far more closely connected with syphilis than with true struma, such as nodes, ulceration of the palate, and erosive lupus, are not infrequent in the subjects of this disease.

9. *Treatment.*—The treatment which I usually adopt consists of the cautious use of mercurials and iodides, at the same time supporting the system by tonics and a liberal diet. The mild mercurial ointment rubbed in behind the ears, in the neck, or under the axillæ, every night at bedtime, is the best mode of employing that agent, and one which in these cases I never omit. A mixture containing iodide of potassium, iodide of iron, and tincture of nux vomica is also usually prescribed at the same time. If the patient be very feeble, and if the case be one belonging to group B (page 122), that is, with much superficial vascularity, more direct tonics, such as quinine and the various preparations of iron, are indicated. The induction of ptyalism ought certainly to be avoided. Although in one instance I witnessed most rapid improvement coincident with its occurrence (Case 12), yet I feel sure that it is unwise to run the risk of so much reducing the patient's strength. Unless, indeed, the surgeon is certain that his patient is well fed and well protected from cold, the utmost caution ought to be used in ordering mercury. In Case 48 a rapidly induced ptyalism in a half-starved feeble girl certainly did harm. If the intolerance of light be great the occasional employment of blisters behind the ears may do

good, but some of the worst cases I have seen had become so in spite of setons which had been inserted into the temples. To Cases 14, 31, and 49, I would appeal in proof of the superior efficiency of a combined tonic and specific plan of treatment over a merely tonic one.

Although, however, I have no doubt as to the superior efficacy of specifics, yet I would carefully guard my readers against expecting too much from their use. This form of keratitis runs but too often a very protracted course, in spite of the best contrived plan of treatment. Neither mercurials nor iodides will, as a rule, cut it short. If given to patients in fair general health at a very early period of the attack, they will, I believe, prevent the effusion from being copious, and very much limit both the extent and duration of the disease. But if the surgeon expect from them such proof of specific efficacy as we often see displayed in the various forms of acquired (*i. e.*, not hereditary) syphilis, he will be disappointed.

I have not as yet tried mercurial fumigation in a sufficient number of cases of inherited syphilis to be able to report on its efficacy as compared with other modes of administration. It is, however, well worthy of more attention than it has yet received. Of its superiority in acquired syphilis there can be no doubt.

10. *Prognosis.*—If a case of interstitial keratitis be seen early, and before any large extent of the cornea has become opaque, a very favourable opinion may be given. If intolerance of light is an early symptom and is extreme in degree, the prognosis must be much more guarded. In proportion as the intolerance is slight the prospect is favourable. Even in the most severe cases a hope that a certain amount of clearing will take place may be expressed. The patient and his friends must, however, be informed that the recovery will be very slow, and at best imperfect. Although the absorption of interstitial opacities is often accomplished to a surprising extent, yet when they have been large, and have existed for a long time, they are seldom wholly removed. During pro-

tracted inflammation the structure of the cornea often suffers, and when the intolerance of light passes off, and the deposits clear away, it is then found that the cornea is misshapen. The alteration in shape, as far as I have observed, is usually a flattening; that is, the state ultimately produced is the reverse of conical cornea.

It must always be remembered that during a severe attack of keratitis there may also be inflammation of the choroid or retina going on. The state of the deep textures cannot be ascertained on account of the opacity of the cornea. Under these circumstances, a quivering motion of the globes on exposure to light is to be regarded as a symptom of ill-import.

It is quite common for a patient with this form of keratitis, in both eyes and of a severe type, to be for a month or two practically blind. The blindness is partly due to the corneal opacity, and in part to the intolerance of light, which prevents his giving the eyes a fair trial. If this stage should last more than a few weeks, it becomes a legitimate cause for anxiety.

The duration of these cases is very unequal. I have seen the corneæ cleared, and the attack over within two months, or even less, from the date of the commencement, but this is rare. More frequently from six to eight months are consumed before the cornea is restored to fair transparency. In many cases the duration is yet longer, and we have not a few patients attending at Moorfields in whom slow improvement is still taking place after the lapse of several years. I am persuaded that most of our systematic works underestimate the risk of permanent damage to the eye which attends this disease, and also give the average duration of its attacks as considerably shorter than they will be found to be in reality. It is necessary to keep careful notes of all cases if we would avoid erroneous conclusions on those points.

11. *Diagnosis.*—Facility in the diagnosis of this disease can only be acquired by careful clinical observation. It most

especially requires a trained eye. The conditions which I have most frequently known to be mistaken for it are certain forms of inflammation following small pox, and very superficial ulcers in a healing stage. Cases of vascular conjunctiva may now and then present themselves, the aspect of which is not easily distinguished from that of the more acutely congested stages of the disease in question. The ground glass appearance prior to the more vascular stage, and the pink or salmon-coloured hue assumed by the cornea during the latter stages are, however, very characteristic, whenever they are present in a well-marked degree. I have seen two cases in which the cornea passed into a well-marked "ground glass" state of opacity, but in which there was no reason to consider the disease syphilitic. In neither of these, however, was more than one eye affected, and in both the congestion of the conjunctiva was excessive. To those who have not had opportunities for observation at an Ophthalmic Hospital, I would recommend that the diagnosis should be held to be doubtful if the patient does not present the peculiarities of teeth and physiognomy which I have described, since we find that the latter are almost the invariable concomitants of the true disease.

It may not be out of place to quote here the brief particulars of the following case, against which, in my notebook, I find written:—"The left eye as closely simulates the condition of syphilitic keratitis as any that I have ever seen." The grounds on which the differential diagnosis was based will become apparent in the narrative.

Thomas B., a well-grown lad, was admitted on account of inflammation of both eyes. He often had it before, and from infancy his eyes had been weak. The left cornea was diffusely hazy, but on careful inspection its opacities were seen to be superficial rather than interstitial, and instead of being chiefly in the centre were most numerous near the circumference. On the right cornea, near to its circumference, was a white-margined superficial ulcer. In both there was considerable conjunctival congestion, and the

intolerance of light was extreme, being quite out of proportion to the visible changes. The lad's aspect was very characteristic of non-syphilitic struma. He was florid, his alæ nasi were very thick, and his upper lip was tumid and presented a deep inflamed fissure in its median line. His teeth were large, of good colour, and perfect as to form. His mother stated that he was quite healthy in infancy; ran alone early; and never had either rash, thrush, or snuffles. He was the fifth of seven living children.

12. *Prophylaxis*.—I shall consider, in a separate chapter, the question of the management of children known to be the subjects of inherited taint, with a view to the anticipation of the diseases to which they are liable. The remark may, however, be suitably introduced here that mercurial treatment in infancy certainly does not prevent the risk of interstitial keratitis at a more advanced age. Very many of the cases I have given are in proof of this. As to what might be the influence of a course of mercurials or iodides given just prior to the outbreak, it is impossible to say. In a few instances I have known the other eye to be attacked subsequently to the commencement of specific treatment for that first affected. These have, however, been but few, and I have witnessed precisely similar occurrences during the treatment of iritis from acquired syphilis. If mercurial treatment will not prevent the liability to syphilitic keratitis, neither will the utmost attention to diet, or the most judicious and liberal use of tonics. I have had several cases under care in private in which the patients were of wealthy families and had enjoyed every advantage which country air, change of air, and the habitual use of a liberal regimen could give.

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CHAPTER III.

INFLAMMATIONS OF THE CHOROID AND RETINA DEPENDANT
UPON INHERITED SYPHILIS.

THAT in the forms of inflammation of the eyeball which result from acquired (*i.e.*, not congenital) syphilis the choroid and retina are not unfrequently affected, has been placed beyond all doubt by the introduction of the ophthalmoscope. White patches of lymph may, by its aid, frequently be seen occupying various positions in the fundus of the eye, and their removal may often be effected by mercurial treatment. That these deposits are in the choroid coat is proved by the fact that the retinal vessels may usually be seen upon their surfaces. The inflammation however by no means confines itself to the choroid. The retina often becomes congested and hazy, and sometimes a condition of general cloudiness is observed, which can be explained by no other hypothesis than that the delicate framework of the vitreous itself is the seat of inflammatory deposit. In fact, syphilitic ophthalmitis, although most frequently met with as a form of sclero-iritis, may involve any one or all of the different structures of the eyeball.* This, then, being the established fact in the acquired syphilis of adults, we might conjecture that nearly the same would be observed in the inherited disease of children; —and such is indeed the case. Were it not that in them the deeper lesions generally occur either with or after an attack of keratitis, I have no doubt but that they would be much more frequently noticed. It is the hazy state of cornea which not seldom prevents an ophthalmoscopic inspection and also at the same time furnishes an apparent explanation of the impairment of vision. Every now and then, however,

* To Dr. Jacob, of Dublin, much credit is due for the strenuous assertion of this doctrine many years ago.

we meet with examples of choroidal disease of this type, in which either the corneaæ have escaped or have cleared sufficiently to allow of examination. In such the disease may be traced through several distinct stages. The first of these is characterized by much dimness of vision, and by the presence of diffused patches of lymph in the choroid, the retina being hazy and now and then the vitreous also. After a while the sight improves and the patches become more defined, and in the third stage, that of cure, the latter are seen abruptly circumscribed and unattended by any deposit in the adjacent tissues. The cases to follow exemplify chiefly the two latter stages of the disease. Although, as I shall have to show subsequently, the changes chiefly involve the choroid, yet they are seldom limited to it. Even if they were, it could scarcely be expected but that the overlying retina should also suffer in some degree. The amount of vision, which the subjects of most extensive choroidal disorganisation of this kind often retain, is however proof that the retina is sometimes but slightly and secondarily involved. (See Case III, Charles M.)

It must not be supposed that this form of disease is invariably of one type, for although in most instances such is the case, in a few remarkable deviations occur. The first case which I shall adduce is one in which the effusion was unusually extensive.

Case I.—Hereditary syphilis—Free effusion of lymph into the choroid of the left eye with detachment of retina and complete blindness -- Dotted Deposits of lymph in the right choroid.

Frederic C. B., aged 17 months, was admitted in December, 1857. His mother stated that she had suffered from sores, followed by a rash, soon after marriage. Of her first three infants, two had been born dead, and one had died soon after birth; the patient was her fourth, and the only one now living. At the age of three weeks he had "dreadful

snuffles" and discharge from the nose, and although at first a fine baby, rapidly fell away and became miserably puny. When three months old a rash broke out, and the mouth and nates became very sore. He was now treated by a physician for inherited syphilis, and had mercury freely given, with the result that all external symptoms passed away. When his mother brought him to the Ophthalmic Hospital, it was on account of her fear that he was going blind. She had noticed that his eyes rolled about much, and had fancied she saw "a white skin" on the left. The child now had a clear skin, but there were puckered scars at the angles of the mouth; his teeth were small, of bad colour, and very irregular, and the bridge of the nose was sunken. Even without the use of the ophthalmoscope, it was easy to see that a yellow white substance occupied the fundus of the left eye. Both irides were perfectly clear, and there was no sclerotic congestion. Light was borne well, and both pupils were fairly active. Atropine having been used, it was seen with the ophthalmoscope that an extensive layer of lymph was smoothly spread out over almost the whole of the central part of the choroid. No vessels were seen on its surface, and the presumption, therefore, was that either it was upon the retina, or, more probably, that it had led to its detachment and destruction. Its smooth surface opposed the idea that it had been effused free into the cavity of the globe. In the right eye numerous white spots of lymph were seen, but the retina itself was not disorganised, and the entrance of the optic nerve was distinct and normal. The infant, as far as could be ascertained, was all but sightless. The iodide of potassium internally, and mercurial inunction were prescribed; but, owing to the mother's irregularity of attendance, the treatment was very imperfectly carried out.

On June 18th, six months after admission, the note states that "he can see with the right better than he did, but only very imperfectly. In it the spots remain in *statu quo*, and are still plainly visible. In the left the large patch of lymph is more easily seen than it was, because it has become much

whiter and more glistening. As to prominence and extent it is much as it was."

Case II.—Large cicatrices in the choroid of the right eye—Teeth and physiognomy typical of hereditary syphilis.

For permission to make use of this case, I am indebted to Mr. Dixon, under whose care the boy was. Charles H., aged 14, from Croydon. The lad was brought to the Hospital on account of very defective sight in the right eye. His left had almost perfect sight, and with it he could read easily. On examination of the right eye with the ophthalmoscope, numerous patches of various shades, from red and pink to white, were seen beneath the retina. One of these, which was nearly circular, very much resembled the optic entrance, and excepting for the absence of vessels, might easily have been mistaken for it. By the margins of the white patches, were many small masses of pigment. The right eye diverged considerably, and he could see but very little with it. His mother stated that he was her only child, and that in infancy he had suffered severely from rash, thrush, snuffles and sores at the anus. The medical man who attended him at the time said that his symptoms were "due to disease derived from his father." His mother had had one miscarriage prior to his birth, but had never since conceived although now for six years married to a second husband. The boy's aspect and teeth were most characteristic. He was of bad complexion, and had psoriasis on the face. The affection of the right eye was believed to date almost from infancy. As the choroidal changes were evidently those of long passed and now retrograde disease, Mr. Dixon did not adopt any treatment.

Case III.—Extensive cicatrices in the choroid of both eyes—Physiognomy and teeth suspicious—History suspicious.

Charles M., aged 20, a pale cachectic lad. On his Hospital letter was a memorandum by Dr. Bader, who

had previously seen him, "specific changes in both eyes; of six years' duration." The ophthalmoscope showed abruptly circumscribed patches, of a dead white colour, on various parts in the fundus of each eye. In both, the retinæ, where not involved by the patches, were very pale, and the optic entrances were irregular. The patient, notwithstanding these changes, stated that he was still able to work as a shoe maker, though he could see but very imperfectly. His physiognomy was very suspicious, and his teeth, although by no means typical, were small and much worn down. There were fissures extending from the angles of the mouth. His father was dead, and was reported to have been a dissipated man, although as far as his mother knew, neither he nor herself had ever suffered from venereal disease. His mother had borne sixteen children, of whom the patient was the only one now living. An elder brother, who had died at the age of seventeen, had attended this Hospital with "bad eyes," for many months.

Case IV.—Hereditary syphilis—Interstitial keratitis, with iritis, cataract, and choroiditis—Complete loss of vision in one eye—Excision of the globe and subsequent dissection of it.

Mary Ann R., single, aged 21, under the care of Mr. Poland, during 1859 and 1860. Her aspect was most characteristic of hereditary syphilis. Her teeth, both upper and lower sets, were horizontally notched and most extensively deformed, but the upper incisors (the test teeth), had been so much broken away by caries, that the vertical notches were scarcely recognizable. Her right globe had been excised by Mr. Poland, having been disorganized and rendered sightless, by the results of syphilitic choroiditis, etc. It appeared from her history that she had had a cataract in this eye. At another hospital four operations had, she said, been performed for the removal of the cataract. (See Dr. Bader's Report below.) Her left

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cornea had opacities in its structure, and the pupil was adherent at two or three points. She could just manage to see to read, but only with difficulty. It appeared that she had had excellent sight, up to the age of 17, when an attack of inflammation occurred, in which both eyes were involved, and which rendered her blind for some weeks. She was the eldest living in her family. The first infant had died at three days' old. Two younger than herself, and aged respectively, 20 and 17, were living, and reported to have good sight.

The following account of the ophthalmoscopic examination and of the dissection of the globe after excision, has been obligingly supplied to me by Dr. Bader. I am not aware that any other opportunity of examining after removal the exact state of the choroid, retina, etc., in this form of disease has been obtained. The report is, therefore, peculiarly valuable.

Report of the state of the eyes at the date of the excision.

LEFT EYE.—Portions of the cornea are slightly misty ; its convexity is increased ; the anterior chamber is large, the iris has the peculiar steel-blue colour ; several posterior synechiae exist but interfere only slightly with the activity of the pupil. With the ophthalmoscope the optic nerve is seen to be of a gray-pink colour, as is frequently observed in similar cases ; the coats of the fundus are thinned, and staphylomatous near the optic nerve.

Portions of the choroid are sprinkled with minute black dots.

The sight of this eye, considering the state of the cornea, pupil and fundus, is good. The eye is irritable from sympathy with its fellow.

The RIGHT EYE has no perception of light. The iris can only be seen here and there, owing to the extensive opacity of the cornea, and where seen, is in apposition with the latter. The greater part of the cornea is replaced by opaque tissue, portions of which are staphylomatous. The

tension of the eye is normal. It has occasionally been painful and red since vision was lost; and during the last month there has been constant pain and inflammation.

Report of the dissection of the right globe.

The right eye was excised by Mr. Poland and was immediately examined. It was generally enlarged, but the transverse diameter exceeded the anterior one.

The anterior surface of the rotten and atrophied iris was adherent to the tissue which replaced the cornea, and was in apposition with the translucent portions of the cornea. The opaque thickened suspensory ligament was adherent to the posterior surface of the iris; the thickened, empty lens capsule adhered to the pupillary margin and to the tissue which replaced the cornea.

The vitreous space was occupied by a chocolate coloured turbid fluid, which consisted of debris of the framework of the vitreous humour, of blood-corpuscles and of a highly albuminous fluid.

The inner (vitreous) surface of the membrane, which intervenes between that part of the tunics known as the ora serrata and the vitreous space, was sprinkled with smaller and larger gray opaque patches of fibrous tissue. The choroid surrounding those patches and the neighbouring ciliary processes were oedematous.

The retina was in apposition with the choroid, it was slightly hazy, but admitted of a good view of the choroid. Minute grayish-white and yellowish opaque dots were seen in its substance, especially round the optic nerve. The optic nerve itself and the yellow spot appeared healthy.

The choroid appeared much thinned, and was of a pale brown colour. Its retinal surface was sprinkled with minute, black, roundish spots; these were most numerous on the portion situated between the equator of the eye and the ora serrata. Some of these spots projected from the choroid, but without affecting the surface of the retina. Portions of the latter remained adherent to the choroid when

peeled off; this occurred chiefly to those portions of retina which were situated over or near the black spots.

Microscopic examination of the diseased Tissues.

a.—The choroid and the hexagonal cells.

The stellate pigment of the choroid and the large choroidal vessels offered no peculiarities.

Numerous clusters of cells were deposited round the capillaries and round those of the larger choroidal vessels, which are near the elastic lamina; these clusters had a roundish shape. The cells were of crown-glass colour and strongly translucent, being in size somewhat larger than blood corpuscles. Some of the blood vessels were entirely surrounded by cells, others only on the side nearest the elastic lamina. The latter had in many places disappeared, and the cells had passed through the gaps and occupied the place of the adjoining rods; these latter were in other places distorted, bent, etc., by similar clusters of cells.

In no instance had these cells passed beyond that part of the retinal framework.

The cells were in immediate apposition with each other, and separated from the surrounding parts by a thin layer of obscurely fibrillated tissue; the fibrillæ were lost sight of in the surrounding pigment of the choroid; in the retina they mingled with the rods.

The margins of the apertures in the elastic lamina of the choroid were thickened by a tissue similar in appearance and transparency to that of the lamina.

The hexagonal cells appeared normal, except those over portions of choroid which were occupied by clustered cells, and those which immediately surrounded the apertures in the elastic lamina.

The former had lost their hexagonal shape; they were rounded off, and their pigment granules, instead of being of a pale brown colour as the remainder, appeared, some deep brown, others black; which, seen with the naked eye, gave

the choroid the appearance of being sprinkled with black dots. The latter were heaped up round the apertures in the elastic lamina; they were round, and their pigment granules were black; at many places these cells had been displaced among the rods.

The clusters of cells were most numerous in the portion of choroid at the equator of the eye; the choroid round the optic nerve and yellow spot appeared healthy.

b.—The retina.

The framework of the retina, the rods excepted, appeared not changed, the latter were, as above mentioned, displaced, distorted, etc., by the morbid products emanating from the choroid. Many of the loculi, formed by what are called the radial fibres, were empty, others were occupied by healthy looking cells, others were filled with what appeared to be oil globules.

The greyish white and yellowish opaque dots, seen in the retina with the naked eye, were due to these accumulations of oil (?) globules in the loculi of the retinal framework.

The place of the delicate cell-layer, immediately beneath the optic nerve fibres, was occupied by an amorphous molecular greyish deposit.

The walls of the retinal blood vessels were thickened.

The layer of true optic nerve fibres which overlays the retina appeared healthy.

Case V.—Entire loss of vision in both eyes in a boy, the undoubted subject of Hereditary Syphilis—Ophthalmoscopic examination wanting.

Edward W., aged 10, a boy of fairly healthy aspect, but pale. Bridge of nose rather broad, and some psoriasis about the skin of face. The incisor teeth were not notched, but were of very peculiar form, being so much narrowed laterally, that they almost resembled canines. Their form was such that, despite the boy's healthy aspect, and the absence of notches, I at once suspected the true nature of the case.

The history was, that in infancy he had had purulent ophthalmia, after recovery from which, however, he enjoyed perfect sight, and retained it until a year ago. The left eye began to fail first, and subsequently the other; and after a few months he became, as he was when these notes were taken, totally blind. On inspection, the left pupil was seen to be much larger than the other, and both were very sluggish. There was not the least congestion about any part. His tonsils showed cicatrices, and were atrophied. His mother stated that she had had syphilis soon after her marriage, and had suffered severely from it.

I have unfortunately mislaid my notes of the ophthalmoscopic examination in this interesting case, and, not knowing the boy's address, am unable to complete the account.

Case VI.—Numerous cicatrices in the choroid—Syphilitic physiognomy and teeth—History of infantile symptoms.

Charles D., aged 9, the second of three living children (a fourth having died), attended under Mr. Bowman's care during 1859. His mother denied all history of syphilis, but she did not appear to speak openly, and against her denial were the facts. In infancy he had suffered from severe and prolonged snuffles, attended with a rash on the body, for the cure of which, the late Mr. Gossett ordered a small pill night and morning for many months, (probably mercury). His mother stated that he took the pills almost continuously for nearly two years. His aspect was characteristic; nose very much sunken indeed: head large: teeth separate, narrowed, and slightly notched (quite typical).

In both eyes the ophthalmoscope showed numerous round patches under different tracts of the retina, of various sizes and quite white and glistening. Around many of them was seen a minute crescent of iron-black pigment. The patches were totally destitute of vessels. The choroid on other parts was paler than normal, and as if thinned. On many large,

ill-defined patches, slender networks of vessels, were seen coursing over surfaces destitute of pigment, and looking as if on paper. In each eye the cornea, lens, and vitreous body were perfectly transparent, and allowed of the deeper structures being very clearly seen.

The boy had great difficulty in directing his eyes, and there was a slight squint, but he could see sufficiently to have learnt his letters. He always looked sideways at anything he wished to see—never straight.

The history given as to his eyes was that in infancy he always had a peculiar rolling motion of the globes, and did not appear to see well. On account of this symptom many surgeons were consulted. No external inflammation of the eyes had ever been noticed. It thus appeared probable that the choroiditis dated back from early infancy, about the age when iritis usually occurs. Very possibly the boy may, in the sequel, suffer also from keratitis.

Case VII.—History of hereditary syphilis—Numerous cicatrices in the choroid of the right eye.

Samuel B., aged about 12, of fair complexion, and characteristic aspect. His four upper incisor teeth were wanting; the canines and lower set presented as marked features as are ever seen in those teeth, being remarkably peg-shaped and notched. His mother had borne six children, of whom three had died, Samuel B. being the second of those living. When an infant, he attended the hospital on account of inflamed eyes; the attack, according to his mother's description, not having been one of purulent ophthalmia. He had at that time bad snuffles and a troublesome rash on the body, as well as a very sore mouth. His mother stated that she had contracted syphilis from her husband subsequent to the birth of her second child; and that, although treated by mercury, she had suffered afterwards from ulcerated sore throat and rash. All her children born since had had specific symptoms in infancy, excepting the last. The sight of the

boy's right eye was all but lost. The ophthalmoscope showed many circular white patches, not a few of which had black dots in their centres. The patches were of glistening white and the choroid and retina appeared to be wholly disorganised and absorbed at these parts. My note, as to their condition, was taken July 8, 1859; unfortunately it is very incomplete, and I have no mention of the state of the other eye.

Case VIII.—Hereditary syphilis in a severe form—Keratitis in both eyes at the age of two years—Entire loss of sight in the left from choroidal disease at the age of twenty.

Emily H—, aged 23, bearing the physiognomy of hereditary syphilis most unmistakeably, came under my care in January, 1859. She had often been a patient at the hospital previously—indeed, almost the whole of her life. The bridge of her nose was sunken and broad, there were large cicatrices at the angles of the mouth, and many pits in the skin of the face and forehead, the skin itself being thick, oily, and of bad tint. Her teeth were small, peggy, of bad colour, and the upper incisors notched. Her tonsils were wasted, and she was somewhat hoarse. Her mother told me that she was herself separated from her husband on account of his having several times given her venereal diseases, from which he had himself suffered very severely. Emily H. was the only one now living, and the eldest born. Two born subsequently had died (the first of hydrocephalus, under the care of Dr. Conquest; the second "of consumption," much wasted, at the age of nine months). In infancy Emily H. had purulent ophthalmia, and "bad snuffles," a rash over the body, and a very sore mouth. She was treated for hereditary syphilis; and subsequently, when two years old, she was for three months under the late Mr. Scott's care at the Ophthalmic Hospital, for what, from the history would appear to have been keratitis. From this she recovered so far as to be able to learn to read, but her sight was ever afterwards much impaired. About eighteen months ago her left eye began to get rapidly worse.

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She had severe, long-continued, and deep-seated pain in the globe, and after the lapse of a few weeks was so blind that she could but just perceive the window. At the date of my note she could not detect the shadow of a hand passing before the eye. The cornea bulged and was hazy: the pupil dilated and fixed. She had been accustomed to see black muscae floating before it, whilst she retained sufficient power of vision to perceive them. The state of the cornea prevented ophthalmoscopic inspection.

Case IX.—Disease of the vitreous body and deposits in the retina of the right eye—Cataract in both eyes—Physiognomy and Teeth typical as regards hereditary syphilis.

Caroline G., aged 13, was admitted as an out-patient on October 14th, 1858. I saw her for the first time on March 10th, 1859. Her hospital letter had the following note on it, written by Dr. Bader, at the date of her first admission: "Vision failing for a year past. In the right eye numerous black patches on the retina and some around the entrance of the optic nerve. Some opacity of the lens. Cataract in the left eye." Fully recognising her diathesis, Dr. Bader had prescribed the bichloride of Mercury, in doses of one-twentieth of a grain three times a day.

On March 10th, 1859, her condition was much the same as when first described by Dr. Bader. There was a well-formed homogeneous, bluish cataract in the left eye, which according to her statement, had been present for several years. She was quite positive that it had formed within her recollection, and had not existed in infancy. The sight of the right eye was so defective that she could not see to read; she expressed herself as quite certain that three years ago she could read easily. On ophthalmoscopic inspection of the right eye, black striæ were seen in the lens and there were also floating films in the vitreous humour. On the retina were many dark spots of deposit.

This girl's teeth and physiognomy were most typical.

Her face was covered with patches of psoriasis, and presented small pits. She had had small pox when nine years old.

Case X.—Extensive inflammatory changes in both choroids—Aspect and teeth characteristic of hereditary syphilis.

In April, 1860, Dr. Bader was good enough to bring under my notice the following case, a good instance of choroidal disease dependant upon hereditary syphilis.

William N., aged 13, a boy of very dark complexion, and of markedly syphilitic physiognomy. His mother stated that he was her only living child, but she was herself so deaf that it was impossible to obtain any history of his infancy. His eyesight had been failing for many years, but he had never had any attack of external inflammation. His corneæ were both perfectly clear; his upper incisor teeth were characteristically notched. His vision was so far impaired that he could only read large print with great difficulty; his left eye was the worse of the two, and both were somewhat improved by the use of concave glasses. On ophthalmoscopic examination the optic entrances in both eyes were seen to be ill-defined; the vessels of the retina were small, and in the choroids were numerous small white patches, interspersed with deposits of pigment; the choroidal patches were not abruptly defined, but merged off gradually into the more healthy structure. The morbid conditions were most advanced in the left eye.

Case XI.—Physiognomy of hereditary syphilis characteristically marked—History of a bygone attack of double interstitial keratitis—Choroidal changes in both eyes.

The notes of the following case are from those kindly supplied to me by Dr. Bader. In it the choroidal changes were well marked. It is from the left eye of this patient that the drawing (see Plate I, fig. 5) was taken.

Emily D., aged 18. She was a delicate girl up to the

age of ten years ; she has suffered much from headaches ; at the age of 16 she had an attack of rheumatic fever. It was stated that her sight began to fail twelve years ago, and that seven years ago both eyes were inflamed, but as far as can be ascertained, by the patient's account, without implication of the retina. There was then, it was stated, merely the power of perceiving light, and this continued for some months, after which the inflammation subsided, and the sight gradually improved, the eyes being left in the condition described below. *August, 1859.*—“The patient bears the typical marks of hereditary syphilis ; the teeth are stumpy, the corneæ hazy, the tonsils swollen, and the general aspect clearly indicative of the diathesis. It may be remarked that her sister presents similar characteristics. The corneæ of both eyes are slightly hazy and irregularly oval ; the pupils are active but irregular ; the irides have the characteristic steel-blue colour ; with the *right* eye she can read the smallest type, and can tell the time on a distant clock ; with the *left*, which was always the weaker and smaller, she can see, but cannot read, large type—she can see the face of the clock but cannot tell the time. It appears, by this examination, that she can see better with some of the lateral portions of the retina. In both eyes, with the ophthalmoscope, the lens and the vitreous humour are transparent. When the examination is not assisted by the lens numerous black muscæ appear as if floating in the vitreous space (this appearance is due to the oscillation of the eye bringing to view different pigment patches on the fundus). The optic discs are small and slightly oval, greyish pink, hazy, indistinct, not well defined, and shade off into a whitish ring which separates the rest of the optic nerve entrance from the fundus. Passing through the left, a few retinal vessels only are dimly seen, but in the right they are more numerous. The fundus round the optic nerve and at the yellow spot is hazy and red, and is sprinkled with irregular white and brown patches, and with minute pigment granules. On the lateral parts the large choroidal vessels are well seen, and here also

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the fundus is sprinkled with numerous large well-defined black patches."

*Case XII.—Double keratitis with choroidal disease—
Physiognomy of hereditary syphilis—Ophthalmoscopic examination.*

I quote the following interesting case and the observations appended to it, from a paper by Dr. Bäder, published in the *Ophthalmic Hospital Reports* for October, 1858. It will be seen that the observations contain some important statements in corroboration of the views I have advanced in this memoir.

"Ann Simmons, aged 17, a strong girl, suffered from purulent discharge and bleeding from the nose when two years old. Loss of substance and subsequent changes in the nasal cavity appeared to have caused the deformity that now exists, the roof of the mouth being drawn up, and the bridge of the nose fallen in.

"Eighteen months ago both eyes spontaneously inflamed—the left first. They were painful and red at the time, and recovered after six weeks without medical treatment. Vision in the right eye was normal. In the left eye she had mere perception of shadows, but with it she had never seen more than she does now after the inflammation.

*"Present state.—*The patient suffers from head-ache (since childhood). The physiognomy (fissures in the skin round the mouth, the teeth, tonsils, etc.,) are those of secondary (hereditary) syphilis. The greater part of the soft palate and the uvula have disappeared. The tension and movements of both globes are normal; both corneaæ are large, and so, in proportion, are the globes, and slightly hazy at places: the anterior chambers are large. The iris is of a peculiar steel-blue colour, the pupils irregular, but active.

"The patient reads the smallest type with the right eye, but does not recognize small objects at a distance, and can only perceive shadows with the left eye. She complains of

occasional pains in both globes. Her vision is not improved by glasses, and in the left eye it has been defective as long as she recollects.

" *Ophthalmoscope*.—Both eyes. The cornea is slightly hazy (greyish patches); the other media are transparent, and the entrance of the optic nerve and neighbouring parts are well seen in either eye, without using the convex lens.

" The entrance of the optic nerve appears larger than usual, of normal colour in the right, and of slight grey colour in the left eye. The retinal vessels are normal in number in the right; somewhat tortuous in the left eye. They appear to advance, as if the optic nerve entrance and the white patch surrounding it were level beneath it, with the remainder of the retina. The patch surrounding the optic nerve entrance is of brilliant white, and is well defined by a line of pigment between it and the choroidal red. It shows on its surface some large (choroidal?) vessels. The network of large choroidal vessels which subtends the neighbouring transparent retina and its vessels is represented correctly in the sketch of the left eye, but is too minute in the other. Similar pins'-head-sized sharply-defined white patches, some with a black dot in the centre, are seen further distant from the optic nerve entrance. The yellow spot appears normal in either eye.

" It is probable that the defective vision of the left eye is due to some change in the optic nerve. The white patch, though it surrounds the whole of the optic nerve entrance, does not considerably impair the conveyance of visual impressions.

" I have not yet seen through a normal retina in a young subject the large choroidal vessels in that portion of choroid next to the entrance of the optic nerve; at this part it appears in young healthy eyes of an equal redness, whereas in this case the large choroidal vessels are seen next to the white patch, and the small white patches further distant are surrounded by brilliant equal redness. The occurrence of inflammation of the eyes during early infancy is probably the

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reason why we so frequently meet with its results—the white patches. I have in this latter case no evidence either from the girl or her parents to prove the syphilitic origin of this eye-disease, but I believe it to be a case of syphilis.

“ 1st. Because, when a student, I was taught that if a child loses its nasal bones, its uvula and palate by ulceration, if the skin round the mouth is fissured, if the hair falls off, etc., the case is one of secondary syphilis.

“ 2nd. Because I have had (since 1856) an opportunity of examining ten cases (four with hydrocephalus), in which the well-defined brilliant white and black patches in the choroid were visible, and in all these cases the specific symptoms before mentioned existed; moreover, in most of these cases, I was enabled to trace syphilis back to the parents.

“ 3rd. Because I have met with a case which in itself renders the specific origin of these patches most probable.

“ A child, (*patient of Mr. Streatfeild*), has been under observation among the out-patients. The mother of the child had primary syphilis during the eighth month of pregnancy. She bore a healthy, strong child, and at the full time. For two months it had no signs of disease, and then purulent discharge from the nose, spots on the skin, etc., appeared. It was brought to the hospital when five months old. The bridge of the nose was considerably depressed, the tonsils were swollen; it had tinea and psoriasis and fissures in the skin, radiating from the angles of the mouth. The circulation in the extremities was slow, the veins very turgid. A private examination of the father and mother showed fresh cicatrices in both cases, and secondary symptoms, tinea, psoriasis, falling off of the hair, etc., in the case of the mother.

“ The child soon died, and I had the opportunity of examining its nasal cavities and the eyes; the bones of the former were exfoliating, and the surrounding mucous membrane ulcerated; the eyes, the choroid and retina excepted, appeared normal: the latter was unfit for microscopical examination. The retina was greyish, and softened; at several places, chiefly around the entrance of the optic nerve,

it was elevated by small pins'-head-sized nodules of lymph (?), which on removing the retina were found to be attached to the (retinal) surface of the choroid (beneath the hexagonal cells). When scraped off, the choroid devoid of pigment was seen beneath them. Decomposition was too far advanced to examine these nodules satisfactorily."

Case XIII.—Double kerato-iritis—Aspect of hereditary syphilis—Symptoms of choroidal disease—Repeated relapses during ten years.

In the following case, although on account of the state of the cornea no satisfactory ophthalmoscopic examination could be made, there was no doubt that the choroids were diseased.

Ann R., aged 20, the eldest of three living sisters (having lost six brothers and sisters), has been under care at the Ophthalmic Hospital for upwards of ten years. Her aspect is most marked. She is slightly deaf in both ears, and states that she formerly had discharge from both. Her tongue presents abraded patches on the dorsum. Head ill-shapen; upper central incisor teeth notched and characteristic. Both her corneæ are hazy throughout, and in the right the opacity is very extensive. With the left she can just see to read large letters. Both pupils are irregular, and the irides thinned. Both globes are rather soft and the sclerotics thin, allowing the dark choroid to be seen through. She describes the first attack as having affected both eyes, and states that for some time she was so nearly blind that she could not tell light from darkness. Since that she has had many relapses, attended with considerable pain in the globes.

The tendency to relapse which has occurred in this case, is a symptom strongly indicative of choroidal affection, and is rarely observed when the cornea alone has suffered.

Case XIV.—Heredito-syphilitic diathesis well marked—Primary syphilis acquired at adult age—Iritic adhesions—Disease of choroid and vitreous body.

In the following case the patient, besides being the subject of inherited syphilis, has also suffered from the acquired disease. It does not appear, however, he had any true constitutional symptoms from the latter, and the history makes it clear that the attacks of inflammation of the eyes have been dependant upon the inherited taint, and not the acquired one.

William B., aged 26, was admitted early in 1861. His aspect, teeth, &c., were most characteristic. The bridge of his nose was flattened down, and had been so since boyhood. There were large fissures running from the angles of his mouth. Face pitted, upper incisors narrow and notched. His sight has been imperfect since early boyhood, the first inflammation, his mother told him, being at the age of four years. With the right eye he has never been able to see much.

The right cornea is hazy, the iris dull, and the pupil much notched by adhesions. The left eye had been the better one until the attack of inflammation, for which he came under my care. In it, too, there had, moreover, always been a corneal haze. He had, when I saw him, an acute ulcer on the outer part of the left cornea, attended by hypopyon. Under atropine the right pupil dilated widely but with some notches, the other also dilated well. It was not practicable to illuminate his fundus at all well. The vitreous appeared to contain floating films, and there were large and numerous black spots on the choroid.

Five years previous to his admission at Moorfields he had attended the Lock Hospital for two months. He had then “clap and chancres,” “a bubo formed and broke.” After this and during his attendance he had a rash on one leg. He took pills night and morning for a month or two and was salivated. After ceasing to attend he had no further symp-

toms. Two years ago he had gonorrhœa again and was salivated by a chemist. He subsequently married and his first child was born a few months before he came under my care. I was very anxious to see his infant, but my curiosity did not seem agreeable to him and I could not press the matter. I have as yet had but few opportunities of seeing the offspring of heredito-syphilitic subjects.

CHAPTER IV.

ON CATARACT AND INFLAMMATION OF THE VITREOUS BODY IN CONNECTION WITH INHERITED SYPHILIS.

IN preceding chapters several cases have been reported in which, in conjunction with other lesions, there was opacity of the lens or films in the vitreous body. These latter conditions, when in connection with inherited taint, are indeed but rarely met with alone. Almost always there is also disease of the choroid or retina. Thus in Case IX, at page 142, a girl, aged 13, was the subject of double cataract, and of floating opacities in one vitreous, in conjunction with syphilitic retinitis. The cataracts were not congenital but had formed simultaneously with the occurrence of inflammation in the other structures. In Case XIV, of the same Chapter, page 149, the patient, a man of 26, had floating films in his vitreous in conjunction with iritic adhesions and extensive disease of the choroids.

In cases of keratitis inflammation of the lens or vitreous appears to be much more rare than in those of choroiditis, but it is quite possible that it is not so really. The opacity of the cornea usually prevents examination of those structures, and this may easily account for the apparent infrequency of disease in them.

I have never yet seen an instance of *congenital* cataract in a syphilitic infant. In all the instances which have come

under my observation the opacity of the lens has commenced some time, usually several years, after birth. This is quite what might be expected, for there is good reason to believe that the syphilitic taint does not usually cause intra-uterine disease. In almost all cases syphilitic infants are at the time of birth of healthy appearance, and the diseases to which they are liable do not commence till some time after their assumption of independent vitality. When cataract occurs in these it is, no doubt, due to an alteration of nutrition analogous to inflammation, and it is, as we have seen, usually coincident with inflammation of other structures of the eye.

As to the ordinary causes of cataract in children, whether congenital or formed during the first few years of life, but little is yet known with any degree of accuracy. It is, however, a matter of common observation with Ophthalmic Surgeons that such patients rarely present the appearance of vigorous health. More especially, I think, does this remark hold good in respect to those patients in whom the condition is not congenital. That hereditary syphilis is the true cause, in a certain number of these the facts to be adduced sufficiently prove. Further investigations on the subjects are, however, wanting. Mr. Dixon has mentioned to me, that in several cases recently under his care the teeth of his patients were much and irregularly malformed, although not always presenting the type of inherited syphilis. The same remark has also been made by Mr. T. P. Peale, jun., of Leeds, who, in a letter to me on the subject, states that he has "rarely seen a case of cataract in a child who had well developed teeth." At some future time I shall hope to possess more accurate and extended data on this question.

Case I.—Strabismus, cataract, and partially adherent pupil after an attack of kerato-iritis—Typical teeth.

Elizabeth G., aged 20, the youngest but one of a family of five. This patient was admitted on June 30th. With her

right eye she could see to distinguish large objects, and could even read large print. Its iris was of steel-grey tint, concave and partially adherent at its pupillary margin, but fairly mobile. There was a semi-lunar portion of opaque membrane visible just within the area of the pupil in its lowest part. Her left eye was slightly divergent and prominent. Its pupil was wholly excluded by adhesions and immobile, its area being occupied by greyish white glistening material, evidently the remains of a disorganized lens.

The history given was, that she had enjoyed perfect sight up to the age of nine years, when, during an acute attack of inflammation (keratitis?), she was blind for six months. This slowly passed off and left her sight much impaired. Her corneæ had now so far cleared that only a few interstitial films were visible. Her teeth, both upper and lower sets, were narrow, peg-shaped, and quite typical of hereditary syphilis. I had no opportunity of obtaining any history of her infancy, but my notes state that both Mr. Dixon and Dr. Bader fully agreed with me in considering that the diagnosis of hereditary syphilis was established.

Case II.—Hereditary syphilis—Supervention of a cataract in the eye at three years of age—Irritic adhesions—Full history of syphilis, treated by mercury, in the parents.

Sarah Ann C., aged 3.—This child was brought for the first time on September 3rd, 1858. In her right eye was a well-formed blueish-white cataract. The pupil was fairly mobile. The other eye appeared perfectly healthy, and there was not the slightest congestion in either. Although well-grown and stout, the sunken bridge of her nose and some fissures at the angles of the mouth, at once attracted my attention. There was also a patch of psoriasis on one cheek, and all her central upper teeth were affected by that peculiar form of black caries, which I had previously noticed in several syphilitic cases. The lower teeth were, with slight exceptions, free from caries. Her mother, who brought her,

was a woman of pale earthy complexion. On enquiry, I ascertained respecting the child, that in infancy she had suffered long and severely from snuffles, had had a very sore mouth, and sores at the anus, which lasted a long time, with also an eruption on the body. Her eyesight had been considered to be good in both eyes, until within a few months. She had several times had gumboils, and once her tongue had been very sore.

The child's mother told me that her husband was dead, that this was her only child, and that she had miscarried twice since its birth. Her own health, she said, had never been good since marriage, and on my asking the direct question, she at once confessed to having had venereal disease from her husband prior to her confinement. The medical man who treated her, gave mercury to salivation, and subsequently a copious eruption appeared. The disease was contracted only about two months before her confinement. The infant was not subjected to any special treatment, and beyond the symptoms above mentioned, was not considered an ailing child. It was at the breast during the time that her mother was under the mercurial course. The mother still suffers from periosteal pains in the head, etc.

Atropine dilated the pupil very imperfectly, and it was then apparent that there were rather extensive adhesions of the inner border of the iris. Spots of uvea were seen on the surface of the lens, and in its structure were several small masses of yellow cretaceous deposit.

Case III.—Cataract with iritic adhesions in the left eye of a girl known to be the subject of inherited syphilis.

Miss H., aged 14, came under notice in consequence of her elder brother being under my care for well-marked interstitial keratitis. Her father had lost one eye by syphilitic iritis before his marriage, and his eldest son had suffered severely from infantile symptoms, and now presented the various indications of the diathesis ;—notched teeth, etc., in

a very well-characterized form. I requested to see his younger sister, and she was brought at the next visit. She was three years younger than her brother, and the account was that in infancy she was fairly healthy. Her teeth showed horizontal notches, but no vertical ones, and there was little or nothing in her physiognomy to have excited suspicion. She could see but very little with her left eye. On inspection I found the lens in a condition of bluish-white haze. It was not densely opaque in any part, but sufficiently so to prevent the transmission of light. The pupil was fairly mobile, but there were numerous small tags of adhesion between it and the capsule of the lens; the other eye was quite unaffected. I did not obtain any clear history of the attack of inflammation during which the changes described had taken place, but her mother said that in early childhood she was quite sure that both eyes had perfect sight. She believed that the changes in the left had occurred within the last few years.

CHAPTER V.

ON THE SO-CALLED AQUO-CAPSULITIS.

THERE can, I think, no longer be any doubt that a large majority of the affections hitherto classed as "Aquo-capsulitis," or cases in which both iris and cornea are slightly inflamed, are due to hereditary syphilis. Although it is time that this term—alike barbarous in its terminology and erroneous in the anatomical theory which it suggests—fell into disuse; yet a short space may suitably be here granted to affections which have been so designated. It has been applied much too widely by many writers. If we were to allow it to include all cases in which the posterior layer of the cornea and the surface of the iris were simultaneously inflamed, a large class would be formed, and respecting a majority, indeed almost all, there would be

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little difficulty in proving a syphilitic history, either hereditary or acquired. In many cases of interstitial keratitis when the cornea has regained its transparency sufficiently to allow of inspection of the iris, the latter is seen to have partially lost its lustre, looking thin and of steel-gray aspect, and not unfrequently to have contracted a few slender adhesions. Although the severity of the disease has fallen on the cornea it is clear that the iris has also suffered. During the attack, however, the iris has been shut off from view, and the disease consequently designated as keratitis. In the cases of acute iritis in syphilitic infants, the cornea, as I have shewn, is but rarely implicated. The only cases to which the term "aquo-capsulitis" ought ever to have been applied, are those in which with finely-dotted deposit on the posterior layer of the cornea the structure of that tissue remains transparent and allows of a tumid and inflamed iris being freely inspected. Cases in which this conjunction of phenomena exists, do occur, but as far as my observation has gone they are but rare. I am speaking, of course, of cases in which the iritic affection and the inflammation of the posterior layer of the cornea are nearly equal in degree. In almost all cases of iritis from acquired syphilis, the sprinkled sand-like dottings behind the cornea are present; but in these the stress of the morbid process is so evidently upon the iris that we never hesitate as to their designation. Now and then, however, after acquired syphilis the affection which supervenes in the eyes might fairly be called "aquo-capsulitis," the iris being affected but very slightly. Limiting the term under consideration as above proposed, I have seen but few examples of the disease. About seven years ago I had under care for some weeks a girl of about 12, of Jewish family, in whom one eye was affected by slight iritis with punctate deposits behind the cornea. The proper corneal tissue never became opaque, and there was never any free effusion of lymph in the iris; the condition proved very intractable, but the opposite eye was never affected. There was no reason for suspecting hereditary syphilis. The following six cases comprise all that I

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have had under care at the Ophthalmic Hospital, in which this affection shewed itself in patients at an age to suggest the suspicion of hereditary syphilis. In one of these I did not see the patient during the attack, but only formed my opinion as to its nature by the permanent condition which had been left. In only one of the six was there much reason to suspect hereditary syphilis, and I am therefore inclined to the opinion that cases of this type are for the most part not dependent upon that affection. Further evidence is, however, needed on this point.

Case I.—Dotted deposit on the posterior layer of one cornea, with slight iritis—No suspicion of hereditary taint.

Alice G., single, aged 20, of clear complexion, rather pretty, and not presenting any trace of the physiognomy of hereditary syphilis, was admitted on June 9th, 1859. She had a perfectly regular set of teeth, of good form, and although pallid, considered herself in excellent health. Menstruation had always been regular. She was the sixth of her family, and all her brothers and sisters were reported to be in good health. The affection for which she applied consisted in a group of dotted deposits on the posterior surface of the right cornea. The largest were near the centre, and but few extended higher than the equator of the eye, whilst downwards they occurred almost as low as the margin of the cornea. The pupil acted very sluggishly but was of normal size. Several tags of adhesion between the pupillary margin and the capsule of the lens were visible, but the iris itself was of good colour, and did not look as if it had ever been acutely inflamed.

From the history given it appeared probable that these deposits had been present for about two months. Six months ago the eye had been inflamed but the sight did not at that time suffer. The other eye had never been in the least affected.

The remedies prescribed were blisters and mercury, the

latter in grain doses of calomel every night. Under these, in the course of three weeks, great improvement resulted, and the deposits were so far absorbed as to allow of her reading the smallest print. Still, however, although much diminished in thickness, the individual dots of deposit were, at the time of the girl's last visit very easily discernible.

Case II.—Double iritis (slight) with punctate deposits in the posterior layers of each cornea in a healthy girl—Suspended menstruation—Improvement under the iodide of potassium.

Emily B., aged 16, was admitted on March 3rd, 1859. In both eyes exactly similar conditions existed, the posterior layers of the corneaæ presenting numerous punctate deposits, and the irides being slightly discoloured, more especially near their free margins. The deposits in the corneaæ were more numerous in their lower halves than their upper ones, and occupied nearly the same position as those in Case I, being, however, much less extensive. The attack had commenced two weeks before admission. The eyes were irritable, but there was no great intolerance of light. She had not menstruated for three months. With regard to her diathesis, my notes state "she is tall, well grown, florid, and fairly healthy looking; teeth good in every respect."

The treatment adopted consisted of the exhibition of the iodide of potassium in five-grain doses three times a-day. Under this she improved very decidedly. Menstruation occurred about a fortnight after her admission, and on March 24th the notes state that the corneal opacities had almost disappeared.

Case III.—Dotted deposits (permanent and earthy) on posterior layers of both corneaæ—Evidences of past iritis—Hereditary syphilis probable.

Edwin R., aged 14, came under my care in June, 1859. On the posterior layer of each cornea were numerous isolated

dots of white deposit, which looked as if they consisted, in part at least, of chalk (Mr. Dixon quite agreed with me in this opinion). These had resulted from an inflammation which had occurred four years ago. There were also some slender tags of adhesion between the pupillary margin and the capsule of the lens. He had fair vision, and what of imperfection existed, was fully accounted for by the state of the corneæ. The condition of the latter was so peculiar and illustrated so well the disease under consideration that I had a sketch taken (see Plate I, Fig. 2). The boy was very decidedly of syphilitic physiognomy as was also his elder brother who came with him. Unfortunately I had no opportunity of obtaining any history of his infancy. As the changes were undoubtedly permanent no treatment was adopted.

Case IV.—Dotted deposits probably permanent in the posterior layer of the cornea—Incomplete history—Diagnosis as to, syphilis doubtful.

The following imperfect notes of an example of the disease now before us I copy verbatim from my note-book. The diagnosis must be held to be very doubtful as to the existence of hereditary taint. It will be seen that the irides were free from adhesions :—

“Edward Roberts, æt. 10. Numerous white specks; permanent. It is difficult to locate them, but they are probably in the posterior layers. In both corneæ the opacities are symmetrical, and in groups which occupy the central part, just below the equator. There is a diffused slight haze over other parts also. Under atropine both pupils dilate freely. Both eyes are slightly irritable. The attack is referred to infancy. Teeth suspicious, but not characteristic. The second of four children.”

Case V.—Iritis with deposits in posterior layer of cornea—No reason for suspecting hereditary syphilis—Disease confined to one eye.

John Earle, aged 16, a stout, florid lad, but of flabby tissues. He is the eldest of his family; four younger brothers and sisters are living.

His teeth are of good form and colour, though irregularly placed. There are scars of ulcers at the angles of mouth and of the nose. His nose is small and ill formed. There is, however, no particularly suspicious appearance in his physiognomy.

About six weeks ago his right eye inflamed. The cornea is now extensively dotted with patches of deposit in its posterior layer. There is a decided sclerotic zone of vessels. The iris is discoloured, and on using atropine the pupil dilates very irregularly. The opacities in the cornea are chiefly about its centre, but extend in degree over its whole posterior surface. He can see but little.

The other eye was quite normal, and had never been flamed.

He stated that his eye had never been painful.

Notes taken at his first admission, July 2, 1860.

Case VI.—Iritis of one eye with dotted deposits in posterior layer of cornea—No reason to suspect syphilis—Perfect absorption of the effusions.

Clara H., aged 20, a German governess. She was the eldest in her family, fairly healthy looking, but of patchy coloration of cheeks, and liable to bad chilblains; light-brown complexion, and yellow-brown irides; her teeth were honeycombed, and much marked by horizontal furrows. Her aspect was not that of hereditary syphilis. She believed that she was quite healthy when a girl. She had never once been salivated. Four years ago, when in Germany, her right eye was inflamed, but the left was never affected until the

present attack. In the right there was no trace of inflammatory products, and with it she could see perfectly. The left had been rather weak for a month or so, but only began to inflame acutely three weeks ago. In the beginning she had severe circumorbital pain, but it passed off. She had been leeched, and had taken pills. The attack was subsiding when admitted. She had never had rheumatism.

The left iris was discoloured, and extensive adhesion existed in the lower half of the pupil. The texture of the iris in the upper part was plainly discernible, and there were no nodules of lymph. The sclerotic was but slightly congested, as the attack was passing off. Behind the cornea at the lower and outer part were numerous little dots; three of these were round and much larger than the rest—they were white; the smaller ones were brown. By atropine the pupil dilated very little and very irregularly; large tags with brown pigment were left on the capsule of the lens. The pupil was occluded by effused lymph.

She was treated by calomel and opium and iodide of potassium. She improved rapidly, and was soon well. In about a month she could read as well with one eye as the other. The lymph had disappeared from the pupil, and the cornea was quite clear.

I was not without a suspicion that this might be a case of iritis from acquired syphilis. The history of a previous attack four years before, and the entire absence of all the usual concomitants of secondary syphilis, were, however, against this view. The type of disease was, moreover, exactly similar to that presented in several other cases in this chapter.

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CHAPTER VI.

ON AMAUROSIS WITH WHITE ATROPHY OF THE OPTIC NERVES
IN CONNEXION WITH INHERITED SYPHILIS.

AMONGST the best marked of the groups into which the ophthalmoscope has enabled us to classify cases of amaurosis is that in which we find evidences of atrophy of the optic nerve itself. The dead white, or bluish optic disc, with arteries shrunk to extreme minuteness, are the constant characters by which we recognize the advanced stage of this disease. Instances of it are by no means rare. They occur at all ages and in very various conditions of health. Sometimes, as in a case now under my care, the disease follows an attack of fever. In some instances patients tell us that they have had no illness but have gradually become blind. In several, excessive drowsiness has been mentioned to me as the only other brain symptom which could be recollectcd. The disease usually advances in the course of from six to eighteen months to almost complete blindness. It usually affects both eyes, but in some remarkable instances I have seen it in one only. The choroid is rarely affected. Retinal apoplexies very rarely occur. The disease seems limited to the optic nerve itself and the artery supplying it. There can be little doubt but that the cause is to be sought for within the cranial cavity, and as the disease is usually symmetrical, the probability is that its source is deeply placed. Whether in the tubercula quadrigemina or the cerebellum we are to place the real site of the morbid process future investigations must decide.

I have several times known this form of amaurosis occur in the subjects of tertiary syphilis, but it is met with so frequently in others, that I have not been inclined to lay much stress on the coincidence. Until quite recently I had never seen an example of it in connexion with inherited taint.

In the second and fourth of the following cases it will be observed that the margins of the optic discs were not, as is usual in this disease, abruptly defined, and that there appeared some reason to suspect actual inflammation of the nerve, as a stage preceding the atrophy. In the sixth there was a condition analogous to glaucoma, and in the seventh the choroid also suffered.

In cases I and III the disease was well marked, but in neither of them could the diagnosis of hereditary taint be rendered conclusive.

These cases are, however, quite sufficient to awaken our suspicions, and to induce us, in the event of meeting with atrophic changes of the nerve in young persons, to make special investigations as to the possible existence of a syphilitic diathesis.

Case I.—Defective sight from infancy—White atrophy of both optic nerves—History suspicious, but by no means conclusive—Some improvement in sight during boyhood.

The following case is one of great interest as an example of very defective sight from infancy dependant upon white atrophy of the optic nerves. It furnishes an exception to what is usual in this form of amaurosis, in that the disease did not advance to entire blindness, but that, on the contrary, vision slightly improved. Whether or not there was any taint of inherited syphilis in the boy must be considered very doubtful. From the form of his head, his impaired intelligence, and the history of his infancy, there is good reason for suspecting defective cerebral development.

William T., æt. 12, admitted June, 1859. He is stated to have been a delicate baby, but does not appear to have had either snuffles or rash. He had "thrush" very badly, and it lasted long and "went through him," causing such soreness at the anus that the medical attendant repeatedly examined the part. He never had any inflammation of the

eyes, but from the earliest infancy his sight was very defective.

He was very feeble in childhood, and did not walk till three years old. He was a twin, but his twin sister was still-born. He is the eldest of the family, and the three younger ones are all delicate. His mother is pale and cachetic, and states that, although without any specific symptoms, yet during three or four years after marriage she had very poor health, having previously been robust.

The boy has good-sized teeth, without notches, but they are of very bad colour. He has a slight rash of serpiginous psoriasis on the chin and cheek. His eyes are of good size and healthy appearance, but have a peculiar half-amaurotic look, and he is continually rolling them as if striving to see. He can see the clock-face but cannot tell the time. By placing large capital letters almost close to the eyes and moving the paper from side to side, he can just see them, but cannot read. In the street "he is continually running against people." He often suffers much from headache. Glasses do not help him.

The above notes were taken in 1859. Two years later, in September, 1861, the boy again attended, at my request. He was now fourteen years old. On the former occasion he had remained under treatment for a month or two, and not finding any benefit he had ceased to attend. On examination with the ophthalmoscope I now found that the case was one of white atrophy of the optic nerves. Unfortunately no note of an ophthalmoscopic inspection during the previous attendance had been preserved. In both eyes the state was similar, but in the left it was most advanced. The optic discs were abruptly margined and white, the retinal vessels being small. In the left the arteries were considerably smaller than in the right, and the whiteness was also greater in degree. In neither were the conditions so extreme as we not unfrequently see them in eyes which have lost all perception of light. It seemed certain that he had made slow improvement since his last attendance. He can

now spell out No. 16 of Jæger's types at a distance of two inches and a-half. The right is decidedly the better eye. He is now allowed to go about alone in the streets, and even goes to school, though not able to learn to read.

The enquiries made on the second occasion confirmed the statements previously given. I noted, however, the following additional facts. Both pupils are of normal size, and move freely on exposure to light. The globes twitch about but do not oscillate so much as they did two years ago. He is a well-grown moderately intelligent lad, but his forehead is peculiarly narrow and his ears very large. Both his mother and himself agree in the belief that he never at any time saw better than he does now, so that the condition would appear to be one which supervened in early infancy. When very young he attended Mr. France, at Guy's Hospital, for many months, on account of his defective sight. In infancy he never had fits, nor was a tendency to "water on the brain" suspected. He was never remarkably sleepy, but on the contrary a very restless infant.

Case II.—Almost total blindness coming on at the age of nine, in a boy of heredito-syphilitic aspect—Clear history of infantile syphilis—Ophthalmoscopic examination—White atrophy of the optic nerves.

Thomas R., a half idiotic boy of very marked syphilitic physiognomy was brought to the Hospital in August, 1861. He was quite blind excepting the mere perception of strong light and shadow. His cornea were, however, brilliantly clear, and there were no adhesions of the iris. The irides were of normal lustre, and it did not appear that he had ever had any external inflammation of his eyes. His mother stated that his sight had been good until last October, when it began rather rapidly to fail. He had no other symptoms, no pain in the globes, no headache or drowsiness, but the failure of vision advanced until in about six months he had become, as he is now, all but blind. His head is large and

mis-shapen; nose, broad; complexion, pale and earthy; teeth, typically malformed. In answer to a direct question, his mother told me that she had had "the disease from her husband" soon after marriage, and in the beginning of her pregnancy with this boy. She was treated with mercury and got well in the course of a few months. Four months before the birth of her child she had got quite rid of symptoms and she had remained quite free ever since. Her husband had also remained well. Two miscarriages had occurred subsequently but no living births. The baby appeared healthy when born and remained so for two months, when he had a rash, and suffered from "water on the brain." The rash after about two months got well. Whilst teething he was subject to "convulsion fits." After reaching the age of two years he remained without special symptoms, although delicate, until the time that his eyes began to fail. His mother considered him clever, but he had never learnt to read, and her surgeon had frequently urged upon her that the boy should not be allowed to work his head. He was tall and well-grown.

OPHTHALMOSCOPIC EXAMINATION.—Both pupils dilated well with atropine. In both eyes the media were clear, with the exception that a few, abruptly defined, black bodies could be seen floating in the vitreous. Those in the right eye were the larger and more conspicuous. The constant movements of the globes, which he could not be got to restrain, prevented a satisfactory examination of the fundus in either. In both, however, the optic discs were seen to be ill-defined, very white, and with exceedingly minute vessels. The choroids in both were pale but free from patches, and the retinal vessels were everywhere small.

The changes disclosed by the Ophthalmoscope, although great, are scarcely sufficient to satisfactorily account for the boy's entire loss of sight. Probably there is also disease within the cranium to which the white atrophy of the optic nerves is secondary.

Postscript.—Since the above notes were in type this

boy's eyes have been attacked by interstitial keratitis. He is at present suffering from a well marked attack of that disease. This fact is of importance in reference to the diagnosis of hereditary syphilis. Although previous to the inflammation of the corneæ he could but just perceive the strongest lights, he has since suffered from extreme photophobia. There is no reason to think that he can really see any better than he did.

Case III.—White atrophy of the optic nerve with anemic retina (one eye only)—History of long-continued ophthalmia in childhood—Aspect and teeth suspicious.

Ellen R., aged 22. Very delicate and chlorotic looking. Features and teeth a little suspicious, but by no means characteristic. Has never had good health. Family phthisical.

At the age of four she had badly inflamed eyes, for which she was ten months an inmate of the Salisbury Infirmary. The eyes remained inflamed, and for long she was almost blind. She was afterwards brought up to London, and attended at this Hospital from the age of 7 years till 16. Since the age of 16, she has earned her livelihood at needle-work. She can now just discover light with the left, and states that she has been practically blind in it since æt. 14. She now comes under care on account of tinea of the lids. She is dyspeptic, and has had swollen glands and sore throat frequently.

Both pupils are round and of equal size. The corneæ are not actually opaque, but look thinned, and, to a very slight degree indeed, hazy, as if they had formerly been the seat of interstitial inflammation. This condition is much more marked in the left.

OPHTHALMOSCOPIC EXAMINATION.—The left optic disc has a narrow crescent on the inner side. It is very white, and its vessels are mere hair-like threads. The retina is pale and non-transparent.

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Dr. Bader agreed with me that the disease had probably begun in the retina. There were no choroidal patches. The fundus of the other eye was healthy.

REMARKS.—The history in this case does not support more than a suspicion of syphilitic taint. No leucomata whatever had been left as the result of the long-continued inflammation of the eyes, stated to have occurred in childhood, a fact which considerably favoured the supposition that the disease had been interstitial keratitis. I had no opportunity of obtaining a history from the girl's parents.

Case IV.—Congenital syphilis—Aspect and teeth typical—Excellent sight up to the age of nine—Amaurosis, ending in total blindness—White atrophy of the optic nerves.

The following are the particulars of a very interesting case which was sent to me by Mr. Vose Solomon, of Birmingham, by whom an exact diagnosis as to the nature of the disease had already been made.

December 8, 1861. Master S, aged 9, is a pale complexioned boy of very marked syphilitic physiognomy. His central upper incisors are just cut, and are notched and narrow. There are deep scars about his mouth and nostrils, and his mother states that in infancy he suffered from most troublesome ulcerations on these parts. He is the eldest living of a family of four, the three younger being girls. One born before him died "of wasting" at the age of one month. He was very delicate in infancy, and had a troublesome eruption with sores on the nates. At about a year old he appeared to strengthen, and remained afterwards, until he became blind, without any special symptoms although always puny.

His eyesight had been quite good until August last, at least as far as his parents knew. One day they noticed that he was feeling for something and upon enquiry found that he could not see well. On further examination he proved to be quite blind of his left eye. Probably the disease had

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been for some time advancing without being discovered. Immediately on this discovery he was taken to Mr. Solomon, who recognised his diathesis and prescribed accordingly. The disease, however, steadily advanced, and without any pain in the eye or any external congestion he became quite blind.

At present (December, 1861) he is so blind that he often mistakes the dark for daylight. His corneæ are clear and irides of good lustre. Pupils moderately dilated and totally insensible to light, even to that of a strong sun-glare. He is rather deaf and has been so, with intermissions, for some months. It was a feature of his blindness during its development that it varied much at different times. On some days he would see pretty well and then on the next relapse into almost total blindness. For some weeks however the ages have been quite insensible to light.

OPHTHALMOSCOPIC EXAMINATION.—The state of the fundus in the two eyes was almost exactly similar. In each the optic disc was flat and of a bluish white, the vessels being of exceedingly small size. Only the trunks of the large arteries and veins were visible, all the smaller ones having wholly disappeared. The margins of the optic discs were ill-defined and jagged, with dots of black pigment. The retinae were pale and rather hazy. In different parts of the choroids were thinned patches, ill-defined, where the reflex of the sclerotic was visible through. In these, no doubt, some effusion of lymph had formerly taken place. Owing to the boy's total blindness and consequent inability to fix the eyes, the examination was attended with some difficulty.

Case V.—Congenital syphilis—Total amaurosis from white atrophy of the optic nerves—Choroidal changes—Partial idiocy.

Flora C., aged 10, was brought by her mother to the Ophthalmic Hospital on March 17th, 1862, having been

brought over from Australia on account of her eyes. She was placed under Mr. Dixon's care, who kindly drew my attention to the case, as he considered the teeth and physiognomy quite characteristic of inherited syphilis. She was totally blind in both eyes. I obtained from her mother the following history of her case:—

When an infant, she was puny, but had no special symptoms, excepting that "water on the head" was at one time suspected. As she grew up she was precociously intelligent. She had excellent sight until about seven years of age. During 1859, she was at a boarding school at some distance from home. Her parents heard from time to time that she did not get on well with her lessons, and appeared to see badly. At Christmas they fetched her away and were distressed to find that she was in reality almost blind. No pain in the eyes had ever been felt, she had had no symptoms, excepting the failure of sight and occasional squinting. Within a month of her return home she wholly lost the little remains of vision which she had preserved, and was reduced to her present condition of total amaurosis.

Ophthalmoscopic Examination.—The pupils dilated well with atropine. Both optic discs were of a dead bluish-white colour, and their vessels shrunk to extremely minute size. The choroid in each eye was extensively dotted by small patches, some of them white (exposure of sclerotic), others black (aggregations of pigment). The conditions were precisely similar in the two eyes, and denoted advanced white atrophy of the optic nerves with the results of choroidal inflammation and subsequent absorption. The cornea in each was beautifully transparent, and the iris lustrous and free from adhesions.

Physiognomy and Family History.—Flora C., was of pale complexion, narrow forehead, deeply notched upper incisor teeth. Her mother said that she was not aware that either herself or her husband had suffered from syphilis since marriage, but, added that she thought it likely the latter

had had it previously. The following is a statement of their offspring :

- 1st. A girl : lived but one month.
- 2nd. A boy : died almost immediately after birth.
- 3rd. A girl : died during birth.
- 4th. A girl : died at nineteen months.
- 5th. A girl : died at four months.
- 6th. A girl : died "of atrophy," aged ten months.
- 7th. A girl : Flora C., our patient.
- 8th. A girl : died at ten months.
- 9th. A girl : now aged 7, living, reported healthy.

Several of the infants had suffered severely from blotches, &c., during the first five months of life.

State of Intellect.—At the time Flora C., was under our observation, she was evidently partially idiotic. She was exceedingly fretful and restless, frequently crying or laughing, often dancing about the room. She answered questions in a wild manner, wandering off to some other subject directly. Her mother assured us that these symptoms had come on since her arrival in England, that is within a few weeks ; but of this I felt much doubt.

Case VI.—Heredito-syphilis—Keratitis in childhood—White atrophy of optic nerves with glaucomatous symptoms at the age of twenty-four—Iridectomy—Temporary benefit.

In the following case, in conjunction with other changes, we had a state of eyes very closely similar to that known as glaucoma. The tension of the globes became greatly increased, the optic discs were cupped by the intra-ocular pressure, and the patient suffered from the peculiar tensive pain characteristic of glaucoma in its more typical forms. These symptoms were also temporarily much relieved by iridectomy. There is no doubt that the whole series of morbid changes was really due to inherited taint, and it must be noted that they occurred at an age at which true glaucoma is exceedingly rare, if not unknown.

Apart from the interest connected with the inflammation of the eyes, the case presents another feature worthy of comment. The man in addition to having inherited syphilis in a severe form, had also exposed himself to contagion *de novo*, and had suffered from a venereal sore. In the British Medical Journal for September 21, 1861, I published a short paper on the question as to whether inherited syphilis is protective against subsequent contagion. Three cases which I cited went in support of the belief that those who have suffered from the hereditary disease in a severe form, are not liable to contract the indurated chancre. Since then, I have seen two other cases in which the subjects of inherited taint had exposed themselves to contagion, and had contracted sores, and in neither of these did the sore become indurated. Of these two, the following case is one. The man, when he came under my care, presented a well marked syphilitic tongue. There were numerous fissures extending about the organ, bordered by white markings, together with some swelling and hardening of the structures. Was this state due to the acquired, or to the inherited taint? It is certainly rare as a consequence of the latter, nevertheless I have seen it in an undoubted form in two or three instances. As the man in this case asserted that his tongue had begun to be sore before the date of his chancre, and as no other constitutional symptoms had followed the latter, I am strongly inclined to the belief that it was due to inherited taint. This opinion is also strengthened by the fact that the form of diseased tongue exhibited was one which is usually a late tertiary manifestation, whereas, his acquired disease was of recent date.

William F., a single man, aged 24, was admitted into the Metropolitan Free Hospital on November 28th, 1861. Both corneaæ were hazy from old deposit, the sclerotics thin and dusky, the pupils large. His physiognomy and teeth confirmed the suspicion that he was the subject of inherited taint. Both Mr. Dixon and Mr. Critchett, who at my request were subsequently kind enough to examine him, agreed most fully in

this diagnosis. He was deaf in the left ear, and had been so as long as he could remember, having, however, never had any discharge. About three years ago, he had, he stated, suffered from ulcerated sore throat, and afterwards his tongue became sore and had remained so ever since. It now presented a most typical condition of the syphilitic tongue, being fissured, corrugated and patched over with white markings. It was swollen and indented by the teeth at the edges. Four months ago he contracted a sore under the foreskin, which was attended by much discharge and swelling. He soon got well of it, and had no secondary symptoms, I examined his penis and could find no trace of chancre or of scar.

History of Family and of Childhood.—He was the seventh child, but all older than himself, excepting two brothers, had died in childhood. A younger brother was also living. In childhood he was always delicate and did not run alone till three years old. When fourteen he had "St. Vitus' dance." At the age of six he had inflamed eyes, and was for six months almost blind. Had imperfect sight ever after, but could see enough to read the newspaper easily. During the last nine months his sight has got much worse, especially in the right eye, and during the last fortnight it has obliged him to give up his work.

Ophthalmoscope.—In both eyes the optic discs were deeply cupped. In passing out into the retina the vessels curved over as if turning up a bank: the depression was, indeed, so great that it was almost like looking into a funnel. The discs were white, and the vessels small. Arterial pulsation could be distinguished without pressing on the globes. Slight pressure increased the pulsation, but if augmented stopped it altogether, and emptied the arteries. The media were clear, the globes egg-shaped, so that the fundus was easily brought into focus without using a lens. The conditions were similar in both, but most marked in the right. Both globes were decidedly harder than natural, and the right much so.

Having kept the man about a fortnight under observation, and finding that in spite of specific treatment, his sight was getting rapidly worse, I determined to perform iridectomy. He had suffered much from tensive pain in the globes, and for several nights had scarcely slept. His sight was so far lost that with the right he could not count fingers, and with the left could with difficulty read the largest capital letters.

On December 14th; I performed iridectomy in both eyes, taking away a large portion of iris in a direction upwards.

During the night following the operation he slept well, and continued to do so during the next week. The globes lost their abnormal tension, and when I first tried his sight on the third day he could read ordinary print with the left easily, and could spell out capital letters with the right.

About a fortnight afterwards the pain recurred, and his sight again began to fail, and he is at present in *statu quo*.

Case VII.—Congenital syphilis—Keratitis—Iritis in right eye—Atrophic changes in optic nerves, retina and choroid of both eyes.

Edward H., æt. 15, of syphilitic physiognomy and typical teeth. Forehead large, lower jaw dwarfed, and the front lower incisors three-quarters of an inch behind the upper ones. He is an only child, and he believes that he never had any brothers or sisters.

Six years ago he attended at this Hospital on account of inflamed eyes, and was under care for some months.

He was readmitted under my care February 20th, 1862. He now has divergent strabismus with twitching globes: both corneæ slightly hazy, the right especially so. Both pupils large and very sluggish, almost insensible to light. He says that he has been almost as blind as at present for the last four years. He can with the best eye (his left), just see the face of the clock and large capital letters of print.

Ophthalmoscope.—In both eyes the optic disc is much too white and the vessels small, this condition being most

advanced in the right. The margins of the optic discs are very irregular, owing to atrophy of the adjacent part of choroid. There is much pigment scattered about the fundus in abrupt black patches, and the choroid generally is thinned. The choroid of the left is much less diseased than that of the right. The right pupil is partially adherent, the left quite free.

CHAPTER VII.

ON DEAFNESS IN CONNEXION WITH INHERITED SYPHILIS.

DEAFNESS in greater or less degree is frequent in the subjects of inherited syphilis. In some instances it advances to the almost total abolition of the perception of sound. These extreme cases are however exceptional, and more commonly the hearing is only partially lost. In the Eye, one or other of the various structures may be attacked by the specific inflammation, whilst the others remain almost free, and thus distinct groups of cases are afforded. In like manner in the Ear we might expect to meet with dissimilar forms of disease depending upon the same cause. And the clinical fact would appear to be so. In some cases of deaf syphilitic patients, the history given is of otorrhœa, pain, &c., and other evidences of external inflammation, in others no such symptoms have been present.

A form of deafness which occurs in these patients and which, as far as what little observation I have made on the subject goes, appears to be peculiar to them, is one in which the function fails without any external disease. It is usually symmetrical. Not unfrequently its stages are rapidly passed through, and a patient who six months ago could hear almost perfectly, becomes—without otorrhœa and without any marked degree of pain—utterly deaf.

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If it is only recently that I have thought of specially investigating the disorders of hearing in reference to hereditary taint, and in many of the cases cited in this work in which deafness is recorded I have unfortunately preserved no details as to that symptom. Quite lately, however, my friend Mr. Hinton has allowed me to avail myself of his special knowledge of ear diseases, and has kindly examined for me the ears of several patients who are the subjects of the form of deafness alluded to.

I will briefly adduce all the evidence on this matter which I possess.

Case I.—The details of this case are given at page 33. Its subject, a girl, aged 12, who had suffered severely from inherited syphilis, is stated to have been for long very deaf. She had also had sore throat. There is no further note as to the deafness.

Case II.—A girl, aged 8 (See page 49), whose symptoms had been severe. The notes state, "She is deaf and has for a long time suffered from otorrhœa."

Case III.—In this instance the patient, a man, aged 21 (see Case 24, page 54), with a history of inherited syphilis, is stated to have been quite deaf since the age of 8 years. He had had otorrhœa in the first instance.

Case IV.—A boy, aged 8 (Case 27, page 53) of characteristic physiognomy and teeth. He was deaf in both ears, and had been so some time. There had been otorrhœa.

Case V.—Elizabeth H., aged 15 (Case 37, page 60), a child who had suffered most severely from syphilitic symptoms. She had lost her soft palate by ulceration, and was also the subject of laryngeal disease. She was quite deaf, but I have no note as to the symptoms which had preceded her loss of hearing.

Case VI.—Matilda P., aged 19 (Case 41, page 62). In childhood she had suffered from otorrhœa, and was now quite deaf.

Case VII.—Archibald McN., aged 13 (Case 57, page 75). He had suffered from otorrhœa which had left him very deaf.

Case VIII.—William S., aged 12 (Case 58, page 75). He had suffered from otorrhœa in infancy, which had left him rather deaf.

Case IX.—Mary Ann W., aged 17 (Case 61, page 77). She had suffered in childhood from otorrhœa, which had left her rather deaf.

Case X.—James W. O., aged 15 (Case 60, page 81). He was deaf of the right ear, from which he had formerly had purulent discharge.

Case XI.—George B., aged 16 (Case 67, page 82). — He was rather deaf.

Case XII.—Anna P., aged 15 (Case 80, page 90). The notes state, “Although she is now quite deaf, yet her mother does not recollect that she ever suffered from otorrhœa. The deafness began to come on at the age of twelve.”

Case XIII.—A young lady aged 12 (Case 88, page 96). Slight deafness in the left ear after otorrhœa at the age of five.

Case XIV.—Elizabeth J., aged 27 (Case 96, page 101) She was utterly deaf. The defect in hearing had commenced at the age of six years. My notes do not expressly state that she had not had otorrhœa, but if my memory serves me, such had never been the case.

Case XV.—Susan B., aged 26 (Case 100, page 106). This woman was quite deaf, and had in childhood suffered from otorrhœa.

In none of the above fifteen cases was any examination of the ears made, an omission which I much regret. All the patients had suffered from syphilitic keratitis, and all were the undoubted subjects of inherited taint. In all of them the patient came under treatment on account of disease of the eyes, and the deafness was only incidently noticed, a circumstance which must apologize for the imperfection of the details. As the fifteen cases are taken from the series of one hundred and two examples of syphilitic keratitis they afford us some measure of the frequency of diseases of the ear in heredito-syphilitic patients. They certainly are less common than diseases of the eye. Still I think no one

would assert that the proportion of 15 deaf in a group of 102 is not very large, and quite sufficient to prove that these patients are especially prone to diseases of the auditory as well as of the visual organ.

It will be noted that in all the fifteen cases excepting two, the loss of hearing was symmetrical. In nine cases the patients were utterly deaf, whilst in most of the others the loss of hearing had advanced to a very considerable degree. In almost the whole of them otorrhœa is mentioned as having occurred early on in the case. Judging, however, from similar cases which I have of late examined more carefully I should not be surprised if, had more detailed histories been obtained, it would be found that in most the discharge had been a very trivial symptom. In all except one it had quite ceased before the patient came under notice. I have never yet seen a case of profuse otorrhœa attended with ulceration, growths of granulations, etc. (such as are common in cachectic or "strumous" children), in an heredito-syphilitic patient. In two of the cases no otorrhœa had it is believed ever occurred, the gradual failure of hearing having been the only symptom. The age at which deafness is most liable to come on appears to be about the same as that at which interstitial keratitis is most frequent, *i. e.* from five years before puberty to five years after that period. In nine out of the fifteen cases the patients were females, and in the six to follow all were so, giving a proportion of more than two-thirds females to one-third males.

In five of the six following cases the ears were examined. I have little doubt but that it is a fair inference that similar conditions existed in most of the preceding ones.

Case XVI.—Physiognomy of inherited syphilis—Typical teeth—History of infantile symptoms and subsequently of interstitial keratitis—Total deafness without any important lesion of the external ear or membrana tympani.

Eliza T., aged 15, was admitted under my care into the

Metropolitan Free Hospital, on October 23, 1861. The aspect of hereditary syphilis was well marked, teeth typical. The irides were steel grey, pupils irregular, and the corneæ dim, from an attack of kerato-iritis at the age of three years. For this attack she attended at Moorfields for one year, under the care of Mr. Critchett. She regained fair sight, and was able to read easily. She had good hearing until about three years ago; she had then some pain and much noise in the ears. The right ear began to fail first, but the other followed soon after; and in the course of a year she had completely lost all hearing. There was at no time the least discharge, until the last few months, when a little watery fluid has at times run out. She is now quite deaf, and can be conversed with only by the fingers (the deaf and dumb alphabet). Since her deafness she has got to speak thickly and almost in a whisper. She never had much pain in the ears but the "singing and noises" were very troublesome.

On November 27, Mr. Hinton at my request made an examination of the ears. The membrana tympani in each was found drier than natural, and rather too concave, but there was nothing discovered to account for the state of extreme deafness. The eustachian tubes were pervious.

Family History.—Her mother has had six children, of whom the patient is the youngest living. She (the patient), when an infant, had a slight rash; when nine months old she had for two months a fit of illness, but no special symptoms of it are recollectcd. Three brothers, older than the patient, are well, and have never ailed any thing particular. Two girls, one born before and one after herself, died in infancy.

I saw one of the girl's elder brothers, and a more striking contrast in physiognomy could scarcely have been presented than between his and her own. His teeth were of good size and form, and he was well grown and in perfect health. I have not the slightest doubt that the taint had been contracted by one of the parents between the date of his birth and that of his sister. No direct questions were asked.

Case XVII.—Heredito-syphilitic teeth, keratitis, &c., in a married woman—Clear history—Deafness at the age of 25—Examination of the ears—No adequate changes in the external parts or membrana tympani.

Mrs. E. H., aged 25, of stunted growth and of well-marked syphilitic physiognomy, came under my care in September, 1861. Her teeth were typical. She had a large misshapen head, a shallow sulcus extending up the centre of the forehead. She had evidently been the subject of hydrocephalus in infancy.

The Eyes.—She came on account of a recent attack of keratitis in the left eye. The deposit was interstitial and in considerable quantity. Six or seven years before both eyes had suffered, but the corneæ had cleared pretty completely. There was no iritis and but little sclerotic congestion. The opacity of the left cornea was confined to the outer half and abruptly circumscribed, leaving the inner part perfectly clear. In the centre of the white opaque patch were some spots of salmon-coloured lymph.

The Ears.—She has been very deaf for four or five months. Formerly, though often a little deaf during colds, she had on the whole good hearing. She never had any discharge nor was ever troubled with collections of wax. The deafness came on gradually and was attended by noises and singing in the head. It was much worse some days than others. Even up to the present time she can sometimes for a day or two hear enough to notice the striking of the clock, and then will relapse into total deafness. The state of the external parts as shewn by the speculum closely resembled that noted in the previous case. The lining membrane of the meatus was covered by desquamated epithelium and the membrana tympani was drier and rather more opaque than usual. The eustachian tubes were pervious, and nothing was discovered to account for her condition of deafness. I obtained a clear account from this patient's mother of the facts as to her own family history.

Her husband suffered from venereal disease both before and after marriage, but did not infect herself. The following is a statement as to her successive pregnancies:

- 1st. A girl: died aged eighteen months, of "a sort of decline," having always been ailing.
- 2nd. The subject of the present case. In infancy always delicate and puny, rash on face. She never had fits nor any cerebral symptoms.
- 3rd. A girl: died aged ten months "of a sort of consumption."
- 4th. A girl: born dead at full time.
- 5th. A girl: now living, and aged 16, has suffered from inflammation of the eyes. [I afterwards had an opportunity of seeing this girl, her physiognomy and teeth were most characteristic. Her head was large and evidently hydrocephalic. Not deaf. Both corneæ were hazy.]

This patient was herself married, and had been so for five years. She had had one miscarriage and one live birth. I saw her child, a girl aged 2, who appeared in excellent health, and was well grown.

Case XVIII.—Heredito-syphilitic diathesis—Typical teeth, &c.—Total deafness—Examination of ears—No adequate disease detected.

Abigail H., was for some months during 1860, under my care in the London Hospital. She was suffering from a large gummosus swelling of the tendon of the quadriceps extensor of the right thigh. This resulted in an abscess which after much sloughing of tendon and cellular tissue slowly healed. In aspect, teeth, &c., this girl presented one of the most marked examples of the heredito-syphilitic diathesis I ever saw. She was an only child and an orphan, and no family history could be obtained. Both her corneæ were extremely hazy from by-gone keratitis.

Whilst in the Hospital the girl's hearing began to fail, and in the course of nine months, without either pain or discharge, she became totally deaf. On November 27, 1861, we examined her ears with the speculum. In both there was an accumulation of white, dry, epidermic scales not easily detached. In both the membrana tympani although dryish and rather opaque was entire. The eustachian tubes were pervious. As in the previous cases there was therefore nothing discovered adequate to account for the utter deafness.

Case XIX.—Hereditary syphilis, with clear history—Deafness without otorrhœa at the age of ten—Examination by speculum.

Honora P., aged 10. This child's case is recorded at page 88, Case 77. At the time the notes there given were taken she was a little deaf, the failure of hearing generally coming on when she took cold. Since then, and more especially during the last two months, she has got much worse. She is now (November, 1861) totally deaf in the right ear, and almost so in the left also. She has never had any otorrhœa. Both tonsils are enlarged, but the eustachian tubes are pervious. Mr. Hinton found in each ear that the membrana tympani was somewhat collapsed and sunken. Both membranes were also opaque and dryish.

Case XX.—Hereditary syphilis—Double keratitis—Deafness in the right ear.

Kate W., aged 13, has been under Mr. Dixon's treatment for syphilitic keratitis since December 10th, 1860. Her aspect, teeth, &c., most characteristic. The treatment has consisted in the use of the syrup of iodide of iron, and of mild mercurial inunction.

Deafness.—In November, 1861, she began to lose hearing in the right ear. There was no discharge from the

ear and no ear-ache, but a constant noise in the ear "as if some one was shouting in it."

December 9th, she is now very deaf in the right ear: can but just hear any sound when a watch is pressed over it. Hears fairly well with the other. The outer ear is dry.

Case XXI.—Congenital syphilis—Double keratitis—Deafness at the age of 13, without otorrhœa.

Susan S., aged thirteen: aspect of syphilis fairly marked, and teeth characteristic. Numerous white deposits of long standing in both cornea. Both pupils notched and irregular when dilated with atropine. Nine brothers and sisters are living, none have died. The patient is the third, the two elder ones being girls; one of the elder ones has had inflamed eyes.

Deafness.—She began to lose her hearing in February, 1861. There was no discharge, and not any material ear-ache. She was very much troubled with noises and singing in her ears. The left was rather the worse, but both were affected. She can now just hear a watch pressed over her right ear, but cannot hear it on the left. The ear is dry internally, but there is no other visible peculiarity. The tonsils are not enlarged.

General Comments.

It will be seen that all of the cases in which the ears were inspected go to support the belief that the deafness of syphilitic children is due either to disease of the nerve itself, or to some changes in non-accessible parts of the auditory apparatus. Its symmetry in all the cases would point to a central cause. In none were there found adequate changes in the membrana tympani, although in none was that membrane quite normal. In all the eustachian tubes were pervious, my belief therefore is, that the deafness in these cases is

due either to disease of the nerves or of their distribution in the labyrinth. The cases constitute the analogues of syphilitic retinitis and of white atrophy of the optic nerves.

With regard to the prognosis of heredito-syphilitic deafness, I believe that is very unfavourable. When the disease was progressive I have rarely witnessed any permanent improvement or arrest. In most it has gone on to total loss of hearing, and this in several instances in spite of the cautious use of specific remedies almost from the beginning. From six months to a year would appear to be the usual time required for the completion of the process and the entire abolition of the function.

CHAPTER VIII.

ON DISEASES OF THE OCULAR APPENDAGES WHEN DEPENDENT UPON HEREDITARY SYPHILIS.

THE wish to notice in this work all the affections of the eye and its appendages, which I have hitherto observed in connexion with inherited syphilis, induces me to devote a short chapter to diseases of the lids, the lachrymal sac, and the palpebral conjunctiva. None of these affections are by any means peculiar to the subjects of hereditary taint. Of iritis, choroiditis, kerato-iritis, and interstitial keratitis, as met with in infants and young persons, I venture the assertion that in a vast majority of instances, they are directly due to that cause. With *tinea tarsi*, etc., however, it is wholly different, they are very commonly simple affections, and very rarely syphilitic.

Tinea tarsi.—When this disease is of syphilitic origin, whether inherited or acquired, it may usually be distinguished by the circumstance that small abruptly-margined patches of excoriation extend away from the lashes upon the cutaneous surface of the lids. These patches are irregular in shape, and are most commonly observed near

the canthi. They give to the lids an appearance of great irritation and soreness. Syphilitic tinea tarsi is apt to be very obstinate in treatment, unless constitutional specifics are employed. It is interesting to remark, that when tinea tarsi, in a severe form, is not syphilitic, it is still usually a secondary phenomenon to some other specific disease. Measles is undoubtedly a most frequent cause; scarlet fever and small-pox are so more rarely. In connexion with hereditary syphilis it is by no means rare, and often complicates cases of keratitis.

Muco-purulent Ophthalmia.—The reason why purulent ophthalmia is so common in syphilitic infants is, no doubt, to be found in the fact that the mothers of such usually suffer from syphilitic leucorrhœa. The contagious secretion is thus conveyed to the infant's eyes during birth, and the disease is to be regarded as a local one. I have, however, seen so many instances of muco-purulent ophthalmia beginning in infants at intervals of a month or two after birth, and in association with other symptoms of inherited syphilis that I cannot but think that this form is often of constitutional origin. The conjunctivitis is probably of the same character as the inflammation of the Schneiderian membrane of the nose, to which the snuffles, nasal discharge, etc., is due. It is rarely so acute as the true purulent ophthalmia.

Case I.—Obstinate tinea tarsi following a syphilitic rash in a young infant.

A pallid but fairly stout boy, aged 2, was brought to me at the Metropolitan Free Hospital in June, 1858, on account of what looked like catarrhal ophthalmia with severe tinea tarsi. The tinea had existed for eighteen months, the mucous discharge and conjunctival congestion for only a fortnight. Had the disease followed the measles, I asked, "No," was the reply, "but he had a bad rash out on his body before the eyes came sore." There was that in the way the mother spoke of the rash which made me think that she wished the term to convey something of particular and

mysterious importance. Having observed also that the boy's nose was sunken, and that the little excoriated patches on the edges of the lids to the diagnostic import of which I have above alluded, were present, I at once asked as to syphilis. A full history of the disease both in the mother and infant was at once freely given, and the requisite remedies were accordingly prescribed.

Falling of the lashes.—I need say no more of this symptom than that it occasionally happens in syphilitic infants. It has, no doubt, the same relation to the original disease as the alopecia which is not unfrequently observed in adults as a secondary symptom. Not unfrequently loss of the lashes is consequent on neglected tinea tarsi.

Case II.—Severe tinea tarsi in a syphilitic boy—Ulcerated node on the forehead.

Charles S., aged 5, the subject of severe tinea tarsi. No iritis or keratitis. Fissures at the angles of the mouth. Psoriasis on the face. Teeth broken and very bad. Ulcerated node on the forehead.

When an infant he had for four months, very bad snuffles and thrush, "which went through him" and caused sores at the anus. He had no rash. He was a delicate baby, always ill. He had always complained of pain in the lump on the forehead, especially at night. It had existed from very early infancy, and he had been treated for it at several hospitals. He had a blow on it a month ago, after which it ulcerated on the surface.

Case III.—Double purulent ophthalmia, with sloughing of the right cornea—Congenital syphilis—Exfoliation of the crowns of several teeth.

Anna P., aged 7 weeks, a pale puny baby of marked syphilitic cachexia. Her mother had a patch of tubercular syphilitic

eruption on the lips. The child was her twelfth. Of the eleven, four only were living. Anna was a fine child at birth, and her skin was quite clear until the age of five days. Her eyes began to suffer with purulent ophthalmia on the fifth day. (The right cornea had sloughed). When a week old she began to snuffle badly.

Two teeth were found loose in her mouth and one other afterwards fell out. I also took out the crown of another loose molar. She had syphilitic blotches on the buttock.

Case IV.—Large symmetrical leucomata in a syphilitic infant—History of muco-purulent ophthalmia in both eyes at the age of three months.

The condition in which the cornea was left in the following case was not that which is usual after sloughing from purulent ophthalmia. There did not appear to have been any destruction of corneal tissue, but a general bulging of the whole.

Henry E.P., aged 7 months, a little puny child with papular syphilitic rash on nates, which had ulcerated in patches. The cornea of each eye was much bulged almost as if staphylomatous, and occupied with dense white deposit. Whether there had been effusion behind the corneæ or not was a matter of doubt. The condition was remarkably symmetrical. All inflammation had long been past. He was ordered to be brought up again in a year or two for an artificial pupil.

His mother had been twice pregnant before, the first child was born dead, and the other (second) died soon after birth. The third (Henry) began to snuffle very badly when three months old. Before that age he was a very fine baby. Soon afterwards his eyes inflamed and there was some muco-purulent discharge. The "water-rash" "went through him," leaving large syphilitic papulae about the nates.

Case V.—Chronic purulent ophthalmia of one eye only in a syphilitic infant—Opacity of the cornea.

Maria F., a puny baby aged 5 weeks, was admitted in April, 1859, with chronic purulent discharge from the left eye; the lids were not swollen but the discharge was considerable; the entire cornea was opaque and granular. The other eye had never been in the least affected. The ophthalmia had commenced on the third day after birth, at which time also the child began to snuffle. The infant still had snuffles, and on its neck was a dry and red patch of psoriasis. The mother, a delicate looking woman, told me confidentially that her husband had been "gay before marriage." They had married a year ago, and soon afterwards she was under care for discharge and swellings in the groins. She was suffering severely from leucorrhœa at the time the child was born.

I felt no doubt that the patient in this case was the subject of inherited syphilis. The exact relation of the ophthalmia to that taint is, however, less clear. I quote it, however, as a good example of what we not very unfrequently observe, the coincidence of chronic purulent discharge from the conjunctiva with opaque cornea and a syphilitic history.

With regard to the treatment of purulent or muco-purulent ophthalmia when occurring in syphilitic infants both local and constitutional remedies are requisite. The local ones are however of, by far, the greatest importance. Drops containing one or other of the mineral astringents, nitrate of silver, acetate of lead or alum should be prescribed. The two latter are preferable on account of the freedom with which they may be employed. The great point is, that plenty of the lotion should be brought into actual contact with the inflamed mucous membrane, and this is better accomplished with one which may be used *ad libitum* than with one which on account of staining, etc., must be applied cautiously.

From diseases of the lids and conjunctiva I now pass to

inflammations of the lachrymal sac. These latter are not at all uncommon in the subjects of inherited syphilis. In some cases the disease consists in inflammation of the sac, but in the majority it is complicated by periostitis of the adjacent bones. Very often there is at the same time evidence of a tendency to periosteal affections in the existence of nodes or other bones. It is essential to employ the iodide of potassium internally in the treatment of these diseases. Their local management as regards the opening of abscesses, the use of probes, etc., for the nasal duct does not differ from that of similar diseases when not in connection with syphilis. When the bone is involved they are often protracted and difficult to manage.

*Case VI.—Fibrinous conjunctivitis in a syphilitic child
—Destructive inflammation of the globe two years later.*

Clara T., aged 8, a well-grown girl, but of marked syphilitic physiognomy was admitted for a second time, in August, 1857. Her first attendance had been in 1855, and respecting it, I am sorry that I possess only the following notes:—"Admitted October, 1855, with fibrinous ophthalmia, and abscess in the cornea. A layer of croupal membrane was on two occasions peeled off from the ocular conjunctiva. No specific treatment was adopted until December, when two grains of grey powder were ordered to be taken three times daily. Her mouth became sore in a fortnight, and the mercurial was then reduced to a single dose in the day, and was wholly discontinued a fortnight later. On February 9th she ceased attendance, the eye was then well but had a white cicatrix in the cornea; she could see with it."

When re-admitted in August, 1857, there was bulging of the sclerotic in the upper part of the globe as if from intra-ocular abscess. It had commenced suddenly with sickness and fever, and much headache.

On September 4th, the eye was clearly lost and the cornea was giving way in its upper half. The globe was subsequently excised.

The history of the child's infancy is as follows:—She was an eight months' child, but a clear skinned baby when born. Soon afterwards she had snuffles and a troublesome rash on the lips, face, and nates. At the age of three months she had inflammation of one eye but it got well again, and soon afterwards she had swellings of some joints, and "tenderness of her bones."

The mother's first child died of convulsions at the age of ten weeks, having pined away and suffered from rash; the patient is the second. The third lived only five weeks and "was bad with eruptions on the lower parts." The mother herself is delicate but without specific symptoms; she has had five miscarriages; and considers that since marriage she has had much worse health than before. Her husband she reports healthy.

Case VII.—Heredito-syphilitic struma with clear history but without malformation of the teeth.

Ellen C., æt. 9, a puny, pale-faced girl, the subject of angular curvature of the spine was brought to me at the Ophthalmic Hospital on August 27th, 1861. The bridge of her nose was sunken, and the alæ nasi and upper lip (the latter especially) were swollen. Her teeth were not in the least malformed. She had suffered from enlarged glands under the jaw which, however, never broke. She had also had otorrhœa. When a baby she had an abscess in the thigh.

Her aspect, excepting the earthy pallor and the sunken nose, was rather that of thick-lipped struma than that of heredito-syphilis. She came to the hospital on account of inflammation of the right eye and I found the cornea of that eye very slightly hazy. The haze was diffused but so slight that it could not be called characteristically interstitial.

It had only existed a week, and might or might not prove the initial stage of the true interstitial form.

I ascertained the following facts of her history. Her mother was married at the age of 18, and soon afterwards contracted sores from her husband, which were followed by a bubo and sore throat. She was treated for these affections and was assured by her medical attendant that they were venereal. An infant of which she was pregnant at the time was dead born. After this her husband and she were on account of this occurrence separated for nine years. Our patient was born soon after they rejoined each other. The husband left the country when the baby was nine months old and no children have been born since. The patient when a baby suffered much from rash on the buttocks, with peeling of skin, also troublesome sickness, and very severe and protracted snuffles. Quite lately the mother has been under the care of a medical man for sore throat, and was then told that the affection was venereal.

This history would appear to shew that parents may nine years after the primary disease produce syphilitic offspring. I could not ascertain with accuracy whether either parent had been treated by mercury.

Case VIII.—Suppuration of lachrymal sac in a syphilitic infant—Hydrocephalus—History of the syphilis in the parents.

Ellen H., aged 4, was admitted for suppurated lachrymal sac. She had a large protuberant forehead, and a very wide, flat bridge of nose. The skin on the cheeks and forehead was stretched, the lips cracked, &c. Her nails were broken and badly formed; the teeth small, carious and much broken. She was, however, well-grown, and her mother considered that she was fairly healthy. She had had snuffles very badly as an infant, and also thrush and a sore anus. Her father was dead. He was "a very gay man," and his wife confessed that she had suffered from the disease

soon after marriage. She had had six miscarriages before the birth of the present, her only living child.

Case IX.—Abscess in lachrymal sac—Physiognomy and teeth characteristic of syphilis—Effects of bygone keratitis—History of partial paralysis of one arm.

Elizabeth A., aged about 10, of most marked physiognomy and teeth, was admitted with acute suppuration of the right lachrymal sac. The bridge of her nose was sunk level with her face as if from a blow, but there was no history of injury. Her forehead was large and protuberant. She could not use her right hand well, and I was told that in early life she had for a time entirely lost the power of moving it. It had gradually recovered but was still not nearly equal to her left. Both her corneæ were hazy from keratitis, but as to the exact date of the attack no reliable information could be obtained.

Case X.—Abscess in one lachrymal sac in a boy aged eleven—Typical teeth—History of syphilis in infancy—Syphilis in his father.

Victor C., aged 11, was placed under my care on March 25, 1861. He came on account of inflammation of the right lachrymal sac, attended by a fistula. The disease had existed from early childhood. He was of pale sallow complexion, with a few scattered pits in different parts of the integument of the face, otherwise there was nothing particularly indicative of hereditary syphilis in his physiognomy. On looking at his teeth I found his central upper incisors characteristically narrowed and notched. They were also very irregularly placed. He complained of sore throat, and both tonsils were enlarged and ulcerated. His corneæ were perfectly clear, and he had never had inflamed eyes.

Mrs. C. his mother, an intelligent Jewess, told me

that all her family (four children) had been born in Algiers. Victor C., her first-born, suffered much in infancy from spots on his body, from closed nostrils, and from sore mouth. These symptoms her medical attendant assured her were due to disease which her husband had had before marriage. Her husband admitted this and the child was treated accordingly. The symptoms shewed themselves a week or two after birth, he having been born "quite healthy looking." Mrs. C. herself never suffered from any thing whatever, and she now looks quite healthy, though rather pale. The other children are reported healthy. Her husband has had no symptoms since his marriage; he told me, however, that he had never felt so strong since he had the disease. Eighteen months elapsed between his attack and his marriage. When he married he believed himself quite well, and afterwards he never had a suspicious symptom excepting a little psoriasis in the palms. He confirms his wife's statement that she never had a symptom of any kind. His own attack was a severe one. He is now a very robust looking man, but his palms still shew some traces of psoriasis.—March 25th, 1861.

CHAPTER IX.

MISCELLANEOUS CASES AND OBSERVATIONS.

I HAVE collected into the present chapter various examples of disease of the eye or its appendages, in connexion with inherited syphilis, which could not suitably be allotted to any of the preceding chapters. I have also adduced certain cases which are more or less exceptional to general rules, as for instance two in which the teeth were not malformed. The headings to the cases themselves will, however, for the most part sufficiently explain the special points illustrated.

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Case I.—Iritis with some keratitis after a blow—Ulcer in cornea—One eye only affected.

Mary A. D., aged 6, a delicate, puny, withered-looking child, a twin. Her face was covered in its lower half by psoriasis with fissures, and at the bends of the elbows were patches of psoriasis. Her twin sister died when a year old. She came on account of the right eye which was acutely inflamed. The zone of sclerotic congestion was well marked, the iris tumid, muddy, and of sea-green tint instead of light blue. The cornea showed in its centre a superficial abrasion, and was superficially slightly opaque. She could not sleep on account of pain about the eye. Her mother said that the child had had a blow on the eye with a stick about a month ago, which caused inflammation. It, however, cleared off entirely, and was quite well for a fortnight before the present attack, which began a week ago. She was admitted on September 29th. Mercurial ointment was directed to be rubbed behind the ears. October 2.—There was much less lymph, and she was in every respect very much better. October 5.—Ulcer in the cornea healing; iris clear.

Her mother had slight appearance of fissures about the mouth, but denied all suspicious symptoms. She had had eight children, but three only were living. I could not obtain any history of suspicious symptoms in infancy in any of them. Mary A., had been delicate since infancy, and at the age of one year had been liable to rash on the face and at the bends of the elbows. She had never had snuffles or thrush.

Case II.—Acute pustular ophthalmia of the relapsing type in a Boy the subject of inherited syphilis—Disease of the hip joint.

Michael R., aged 6, was admitted for acute pustular ophthalmia, of four or five months' duration on and off. He

was a little emaciated boy with diseased hip joint. His nose was broad and sunken; face, dry and withered-looking. Scattered here and there over the face were patches of psoriasis; the teeth (first set) were bad and broken; lips cracked and irritable. On the scalp were patches of porrigo. Both corneæ were superficially ulcerated, and there was extreme intolerance of light. There was no diffuse keratitis. There were pustules round the edges of both corneæ.

It appeared that he had had severe and long-continued snuffles in infancy, and that he had "thrush" badly, "which went through him" and "came out" at the anus, which was very sore; there was also a rash on the general surface. He was then extremely ill, and was admitted into St. Bartholomew's Hospital, under the care of Mr. Stanley. About three years ago his hip became diseased. For this he was treated in St. Thomas's Hospital. His mother denied that she had ever had any venereal disease, but was certain that her husband had had it. She had two younger children who had had snuffles very badly.

Case III.—Extreme Intolerance of light, with history of syphilis.

Rachael H., aged 6. Extreme intolerance of light was the chief symptom. There did not appear to be either pustules or ulcers on the cornea. Her eyes had been inflamed and irritable for a year, having improved in the summer and relapsed in the autumn. She had an expanded nose, and a pale flabby complexion, large misshapen head. Her upper central incisors began to decay as soon as they were cut. She had been without them two or three years. The lateral incisors were decayed and the canines were becoming peggy. In the lower jaw some of the teeth were decayed or much discoloured, but the central incisors had been shed, and the permanent ones were just visible. They were deeply serrate. She was treated by iodide of potassium, iodide of iron, and inunction of mercurial ointment, and

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fomentation of belladonna. On January 26, she was reported by her mother as being quite well.

The mother of the child had contracted syphilis from her husband soon after marriage. A rash and sore throat followed. She had when I saw her, margined syphilitic sores on the tongue and lining of lips, and also ulcers about the knees. She had been pregnant three times. The first child was born dead, it had been apparently dead some time before birth. The second pregnancy ended in a miscarriage at five months. The third child was Rachael, the only one living. Rachel had rash, snuffles, thrush, sore anus, etc., in infancy, and had been under medical care nearly all her life.

Case IV.—Subacute iritis with hypopyon and ulcer in the centre of the cornea—No syphilitic history—Hydrocephalus and great emaciation—Tuberculosis (?)

James Golley, aged $2\frac{1}{2}$, admitted February 18th, 1861. A pale, delicate, emaciated child, the youngest of five. He had a large head, and coursing over the forehead were large veins. He had been suspected to have "water on the brain." He had never been in a healthy state since birth. He had never had any exanthem, and had not been vaccinated. About one month before admission, his left eye inflamed, and a fortnight later, as it had become worse, a surgeon was consulted. A lotion and a few powders were given. He had not appeared to suffer much, and there was no evidence of his having any pain. The left eye only was affected. The iris was unusually discoloured, and there was a belt of a cinnamon tint near its pupillary margin. Its brownish-red colour contrasted most strongly with that of the other iris, which was grey. There were no visible masses of lymph. In the lowest part of the anterior chamber there was a drop of pus. It was very diffuent and changed position easily, as the head was inclined. The conjunctiva was much congested, and there was some mucous discharge. On the centre of the cornea was a large superficial ulcer. There was no intole-

rance of light. Under the use of atropine the pupil dilated somewhat.

His mother was in consumption whilst pregnant with him, and died two years after his birth. The other four children were reputed healthy. It did not appear that the patient had had any suspicious symptoms during infancy.

I adduce this case as an instance of iritis in a young child without suspicion of syphilis. In all probability the hydrocephalus was of tubercular origin. The iritis was only part of the general inflammation of the eye consequent on the acute corneal ulcer. It must be noted that only one eye was affected.

Case V.—Adhesions of the iris in both eyes in a young girl—No history of the iritic attack—Suspicious symptoms in infancy—History of syphilis in parents.

Harriet S., aged 10, a fairly healthy-looking girl, whose physiognomy did not show any marks of the syphilitic diathesis. Her nose was well-formed, there was healthy coloration of cheeks, and no scars at the angle of the mouth. Her teeth, however, were of a very suspicious type, and the tongue was fissured. She was brought on account of imperfect sight. Bands of adhesion, from the iris to the capsule of the lens, were seen in each eye. The pupils acted fairly, and the irides were of good bright colour. By atropine the little tags of adhesion were made very apparent.

In early infancy she had had sores at the anus which lasted a long time. The mother said that the sores were of "a particular kind" such as she had never seen in any other infant. This appeared to have been the only suspicious symptom. She never had snuffles or thrush. She never had any inflammation of the eye in infancy. Her mother had had seven children; the first five were still-born, and the patient was the sixth. On the question being put, her

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mother at once informed me that she had suffered from "the disease," which she contracted from her husband almost immediately after marriage. This confession, taken with the fact of the five still births, leaves, I think, little doubt but that Harriet S., was the subject of remote taint. It will be observed that she was born at least seven years after the disease in her parents.

Case VI.—Entire loss of sight in a syphilitic infant—Occlusion of both pupils by iritis—Hydrocephalus—Irrregular dentition (1st set)—Syphilis by conception in the mother—History of syphilis in the father.

Elizabeth B., aged 21 months, was brought to the Hospital on October 12, 1860. She was a wasted, puny infant, the very type of syphilitic dyscrasia, with scaly patches on the nates and cracks at the anus, palmar psoriasis, and large patches of psoriasis on the scalp.

Her dentition had been peculiar. She first cut three upper incisors, then an upper double tooth. She had fits whilst cutting her lower ones, and the gums were lanced. All the teeth cut were puny and decayed, and several of them had rotted down to the level of the gums. The upper incisors were loose and the gums inflamed. In the lower jaw on the left side all the teeth were cut, whilst in its right only two incisors had appeared.

The child's head was large, so as to present a very positive, but not extreme condition, of chronic hydrocephalus. The mother said that it began to enlarge at a month old, and that it had not increased lately.

She was reported to have been healthy when born, and very fat, but began to fall away and had blotches on her face when a month old. She had snuffles almost directly after birth. Has been under medical treatment ever since the first month, and was for some time at St. Bartholomew's Hospital.

She has been blind for 9 months, having become so, according to her mother's account, after fits. Her mother

thought that she could still see "a glimmer of the candle," but on trial she was evidently all but insensible to light.

The mother brought with her her eldest (aged 6), and only other child. She was very healthy-looking, without the slightest suspicious feature, and was said to have always been so.

It appeared that the father of the children had, subsequent to the birth of the eldest, suffered from "a secret disease," but the mother denied that she herself had ever had any symptoms. During her last pregnancy she was very ill, and had for a long time a "bad ulcerated throat." Of the latter there still remained evidences, the uvula being tied up on one side to a cicatrix in the soft palate. The state of her gums resembled that of a person who had taken much mercury. With this history I thought it probable that the mother had derived the taint from the infected foetus. Her symptoms had wholly subsided since her delivery, and she was now of fairly healthy aspect.

STATE OF THE INFANT'S EYES.—Both irides were deficient in lustre. On using atropine neither pupil dilated beyond a very little, and very irregularly. Thin membranes were seen occluding the pupils. We were obliged to give chloroform in order to use the ophthalmoscope, and even then it was exceedingly difficult. The occluding films were very thin indeed, and not at all sufficient to account for the almost complete loss of perception of light. We were, however, unable to bring into view any of the deeper parts. It seemed not improbable that the case was similar to one which I have elsewhere published, in which, after infantile iritis, both retinæ were detached.

As to the date at which the iritis had occurred, the mother stated that, about three months ago, she had noticed the eyes a little blood-shot, but this had been the only symptom.

It will be seen that both the preceding cases are examples of infantile iritis. They furnish two more facts in support of

the statement that this disease is more frequent in female infants than in males. (See page 18.)

Case VII.—Hereditary syphilis—Interstitial keratitis—Very peculiar development of teeth.

Jane B., aged 21, an orphan, the eldest of two, her younger sister being 14. Several brothers and sisters (13 or 14) died in infancy. She can give no history of her childhood, except that she remembers having had inflamed eyes. Her sight continued good until a month ago.

She was admitted a fortnight ago under Mr. Dixon's care, on account of specific keratitis. Her teeth are very peculiar indeed. There are five upper incisors, one projecting back into the palate. Of these five, only one is typical, and it is exceedingly well marked. It is the left central incisor. The other central incisor is cut off not much above the gum level.

She is well grown, stout: flabby and pale physiognomy, not well characterised. Some white markings are seen in the buccal mucous membrane.

Mr. Dixon had given a positive diagnosis of inherited syphilis before I saw the case.

Case VIII.—Interstitial keratitis in two children, a brother and sister—Syphilitic physiognomy—Teeth, &c., extremely well marked in the elder one, and less so in the younger.

March, 1862. John D., a boy of 12: most characteristic teeth: physiognomy typical. Enormous nodes on tibia of left leg, and on ulna and radius of left arm, also on tibia of right leg.

During the commencement of the nodes, he was put to great torture by the use of apparatus at a special hospital, under the idea that his disease was "ricketts."

His eyes inflamed during teething, and again about three

years ago. Both corneaæ muddy. Nose sunken. He suffers from ozena so badly that he cannot mix with other children.

His father is a stout, florid, healthy Scotchman: six living children: one died, and one or two miscarriages occurred.

His sister was brought to Mr. Streatfeild a fortnight ago for keratitis, and as her teeth were suspicious, but not typical, we asked the father to bring his eldest child.

In this case we have a most valuable illustration of the importance of seeing the elder children, in order to an accurate diagnosis as to inherited taint.

Case IX.—An exceptional case—Hereditary syphilis with keratitis and iritis, but without malformed teeth.

October 7, 1861. Charlotte R., aged 8, was sent to me by my friend Mr. Robertson. Both eyes were affected with keratitis, and in both the iris was also inflamed, the conditions being quite characteristic. The inflammation had existed for about four months. The girl was moderately florid, but of patchy coloration; her nose was rather broader than usual, and there were small fissures at angles of mouth; but her physiognomy presented no other peculiarities. Her teeth were extensively blackened, and their enamel bad, but they were all of full size and presented no peculiarities as to shape. Their edges were unduly thin.

Her mother told me that Charlotte R., was her eldest living, and second born. The first (born two years after marriage) lived only six weeks, and died of "black thrush." Under the latter designation, the woman said she meant to imply that it had very bad thrush in its mouth, which went through it and caused a breaking out on the buttocks. It had also a rash which almost covered its body, and caused the skin to peel. Our patient was born three years after her parents' marriage. She was very ailing for the first year, and constantly under medical treatment. Her ailment con-

sisted of "bad breakings out," and the surgeon who attended her gave "a great many greyish powders."

A year or two ago she had discharge from the right ear, but with this exception, between the time of her infantile symptoms and the attack of keratitis, she had pretty good health.

Case X.—Severe kerato-iritis—Typical teeth in a sister eight years older than the patient.

The following case illustrates the fact, that the influence of syphilis in the parents may be transmitted to children born many years after the primary disease:

Caroline Backwell, a little girl, aged 5, was brought to me in December, 1861, with both corneæ opaque, one very extensively so. The keratitis had commenced ten months before, and was now in the retrogressive stage, all congestion having disappeared. Her physiognomy showed nothing noticeable, her skin being clear and free from cicatrices. The state of her corneæ suggested interstitial rather than superficial disease, and this view was confirmed by finding that both pupils were very irregular from tags of adhesion. Her teeth, being the first set, displayed nothing characteristic. The upper incisors were rapidly decaying.

Her elder sister came with her, a girl aged 13, well grown, and without any disease of her eyes. The central incisors of this girl were most typical. She was so much pitted with small pox that all other features of the physiognomy were obscured. She was deaf (slightly) and rather hoarse. Mr. Dixon and several other observers saw the patients, and agreed in the opinions I had formed as to the type of the teeth in the elder sister, and of the kerato-iritis in the younger one. The younger child must, therefore, have been born at least eight years later than the contraction of the disease by her parents. It is interesting to note that the inflammation of her eyes appears to have been the only specific affection from which she has suffered.

I learnt respecting the family that there were six in all. The eldest was a boy of fifteen.

Case XI.—Loss of sight in both eyes—Extensive choroidal disease in both—Retinal apoplexies—Teeth, etc., rather suspicious.

Lucy Crutchfield, aged 27. Nervous and delicate. A single woman. Her teeth show a horizontal notching near their crowns, but no vertical notches. They are rather peggy and of bad colour, contrasting most remarkably with her elder sister's, which are regular, white, and broad. She is the fourth of a family of five. She has a yellow, faded complexion, but no other signs of syphilitic cachexia.

She states that six months ago she had good sight; then her eyes gradually failed, and a fortnight ago the sight suddenly got much worse. Now she can see very little, only large objects.

On both retinæ are numerous extravasations of blood, and many white patches from which the choroid has been absorbed and where the sclerotic is now exposed.

She says that she has had only very transient and slight attacks of pain in the eyes. Ten years ago she was liable to fits.

In this case, the diagnosis is not very strongly supported. The changes were, however, exactly those which I have seen very often in syphilitic eyes, and the physiognomy, etc., were, to say the least, suspicious.

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CHAPTER X.

ON THE MEANS OF RECOGNITION OF THE SUBJECTS OF
HEREDITO-SYPHILIS DURING THE TERTIARY STAGE.*

HAVING now considered the various forms of disease of the eye and its appendages, which occur in connexion with inherited syphilis, it may be convenient to add a few words respecting several questions in reference to diagnosis, &c., which have been incidentally mentioned. The establishment or otherwise of a diagnosis of inherited venereal taint must always be treated as a matter involving great and peculiar responsibility. It is often one of great difficulty, and requiring the cautious use of much special knowledge. In most cases the surgeon is precluded either by moral obligations or by motives of kindness from asking any direct questions, or even such as may excite suspicion. If it is the mother of the patient to whom such questions are put it is very possible that they may be the means of inducing her to suspect that which she had never before dreamed of, and which whether true or otherwise may poison the happiness of her life. There can be no duty more imperative in the exercise of our profession than that of abstaining from needlessly exciting in the minds of our patients suspicions as to conjugal purity.† In a general

* The remarks in this chapter apply only to the recognition of the heredito-syphilitic diathesis at ages considerably advanced from infancy. In infancy and during the occurrence of secondary symptoms, rash, etc., the diagnosis is comparatively easy.

† This consideration must be my excuse for the many cases in this work in which the history is much less complete than it would have been had direct questions been asked. In the commencement of my inquiries, I allowed myself to put questions of this kind much more frequently than I now do. The importance of ascertaining the real value of certain symptoms seemed to warrant this.

way there is much less need of caution in seeking information from the father of such a patient than from the mother. Still no one would willingly be guilty of the cruelty of leading a father, however correctly, to attribute the sufferings of his child to his own faults, who had previously not suspected the connexion. These considerations greatly increase the importance of those objective symptoms upon which we are accustomed to base a diagnosis of this nature. I shall endeavour to be as explicit as possible in defining the degree of value which I believe to attach to some of these, and should any of the expressions used appear too dogmatic I must beg my reader to believe that it has arisen solely from a desire to write clearly on a very complicated subject, and not from the slightest wish to stereotype my conclusions either as regards my own mind or his.

In any case in which a syphilitic taint is suspected we must seek certainty, first by inspection of the patient's symptoms and developmental peculiarities, and secondly by inquiries as to infantile history.

By far the most reliable amongst the objective symptoms is the state of the permanent teeth, if the patient be of age to show them. Although the temporary teeth often, indeed usually, present some peculiarities in syphilitic children, of which a trained observer may avail himself, yet they show nothing which is pathognomonic, and nothing which I dare describe as worthy of general reliance. The *central upper incisors of the second set are the test teeth*, and the surgeon not throughly conversant with the various and very common forms of dental malformation will avoid much risk of error if he restrict his attention to this pair. In syphilitic patients these teeth are usually short and narrow, with a broad vertical notch in their edges, and their corners rounded off. Horizontal notches or furrows are often seen, but they as a rule have nothing to do with syphilis. If the question be put, are teeth of the type described pathognomonic of hereditary taint? I answer unreservedly, that when well characterised, I believe they are. I have met with many

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July 2nd, 1907.

It is difficult to say what the best treatment is for the eye disease known as "cataract" and "diabetics" and "old age" cataracts. In my opinion the best treatment is to have the patient go to a "therapeutic optician" and have him make the lenses which fit the patient's eyes. This will give a "therapeutic optician" opportunity to get the patient to see his doctor more frequently, and chances are he will be treated before the condition gets worse. I would advise the patient to have the lenses made by a "therapeutic optician" and have the patient go to a "therapeutic optician" and have him make the lenses which fit the patient's eyes. This will give a "therapeutic optician" opportunity to get the patient to see his doctor more frequently, and chances are he will be treated before the condition gets worse.

It is better to let the doctor treat the patient and the "therapeutic optician" will treat the patient. This is the best way to treat the patient. The "therapeutic optician" will treat the patient and the "therapeutic optician" will treat the patient. This is the best way to treat the patient.

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Syphilitic Malformations of the Permanent Teeth.

(To face Page 205.)

Fig 1. An upper permanent central incisor of a boy, the subject of inherited syphilis. The tooth has been very recently cut, and shows a broad vertical notch, in which are several small projecting spines (the sole remains of the atrophied mid-lobe).

Fig 2. Two upper and four lower incisors (permanent) of a girl, the subject of inherited syphilis, all but recently cut. The upper teeth are narrow from side to side, at their edges, and show a thin middle lobe, bounded above by a crescentic line. The lower teeth are rounded, and show foliated extremities. All the teeth are small, and spaces occur between the adjacent ones. In the upper ones, the crescentic thin middle lobe, and in the lower ones, the foliated extremities will before long, break away, and the upper teeth will be left in the state shown in Fig. 3.

Fig. 3. The central upper incisors of a lad, aged 15, the subject of inherited syphilis. The teeth are short, convergent, narrow from side to side at their edges, and show in each a vertical notch.

Fig. 4. In these teeth almost similar characters as in Fig. 3 are seen. The notches are, however, less deep, whilst the narrowing from side to side is very marked.

Fig. 5. The upper incisors of a girl of 17, the subject of inherited syphilis. There is a wide space between the central ones, and both these teeth, although of nearly normal length, are narrow, and show deep vertical notches. The lateral incisors are, as is usual, of normal size and form. These teeth are much less typical of hereditary syphilis than those in Figs 3 and 4.

Fig. 6. The upper incisors and canines of a girl of 12, the subject of hereditary syphilis. The right canine is a temporary tooth: all the others are permanent. The incisors are remarkable for great inequality of size and difference of form. The right central incisor is very small and notched. The right lateral incisor is of normal size, all the others much below it.

Fig. 7. The upper permanent incisors of a boy of 12 (syphilitic). This sketch shows a condition of extreme dwarfing of the central ones, which, although cut four years ago, have never grown higher than a line or two above the gum.

Fig. 8. An exceedingly well-characterized set of syphilitic teeth (upper and permanent), from a girl aged 16. The central incisors are dwarfed narrow, and notched; the lateral ones of normal size; and of the right canine, the apex is replaced by a notch, in the centre of which is a small tubercle.

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PLATE I.

Fig 1.



Fig 2.

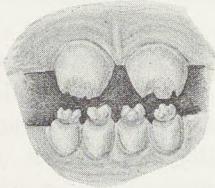


Fig 5.

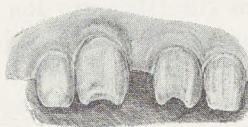


Fig 3.



Fig 4



Fig 6.

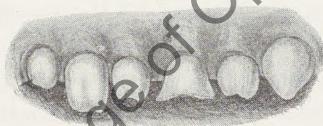
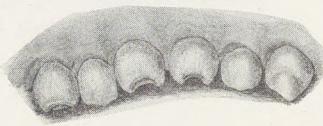


Fig 7.



Fig 8.



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cases in which the type in question was so slightly marked, that it served only to suggest suspicion, and by no means to remove doubt, but I have never seen it well characterised without having reason to believe that the inference to which it pointed was well founded.

The appended plate will illustrate better than any verbal description can the characters of the syphilitic teeth. Figs. 2, 3, 4, 5, and 8, show typical malformations. The tooth in Fig. 1, had been only very recently cut, and some small spines are seen occupying the notch, which in a short time would be broken away, leaving a state resembling that shown in Fig. 3. Figs. 6 and 7 show exceptional conditions:—In the former, the teeth are not symmetrically malformed, and in the latter is illustrated the very interesting fact of almost total arrest of growth in the two test teeth.

Next in value to the malformations of the teeth are the state of the patient's skin, the formation of his nose, and the contour of his forehead. The skin is almost always thick, pasty, and opaque. It also often shows little pits and scars, the relics of a former eruption, and at the angles of the mouth are radiating linear scars running out into the cheeks. The bridge of the nose is almost always broader than usual and low, often it is remarkably sunk and expanded. The forehead is usually large and protuberant in the regions of the frontal eminences; often there is a well marked broad depression a little above the eyebrows. The hair is usually dry and thin, and now and then (but only rarely) the nails are broken and splitting into layers. If the eyes have already suffered, a hazy state of the corneæ, and a peculiar, leaden, lustreless condition of the irides, with or without synechiæ, may be expected. If, however, the eyes have not yet been attacked by syphilitic inflammation, they will present no deviation from the state of perfect health and brilliancy. The occurrence of well characterised interstitial keratitis is now considered by several high authorities as pathognomonic of inherited taint. It is almost invariably coincident with the syphilitic type of teeth, and when these

two conditions are found together in the same individual, I should certainly feel that the diagnosis was beyond doubt. As a general rule, however, it is only by the careful estimate of various physiognomical conditions and symptoms considered together, and mutually supporting each other that the diagnosis of this diathesis can be established. I must especially beg of those who have not previously made the deformities of the teeth the subject of special study, to be very careful in their inferences. Mistakes, leading to painful and much regretted consequences, may ensue from too hasty reliance upon misinterpreted symptoms.

APHORISMS AND COMMENTARIES RESPECTING CONSTITUTIONAL
SYPHILIS AND ITS TRANSMISSION FROM PARENT TO
OFFSPRING.

I.

AN individual who has once suffered from self-acquired constitutional syphilis, is not liable to contract the disease a second time.*

II.

It is as yet doubtful whether a person who in infancy has suffered from well characterised secondary symptoms, is protected thereby from future liability to syphilis. It is, however, in a high degree probable that inherited taint does, if not actually protect, at least tend much to modify the liability to acquired disease.† Analogy as well as clinical experience lead to this belief.

* There are exceptions to this, but these are as rare as in the case of other specific exanthemata, and only serve to illustrate and confirm the rule.

† See pages 149 and 171. See also a paper by the author in the "British Medical Journal," for September 21, 1861.

III.

Constitutional syphilis once acquired may exist in the system for indefinite periods, and even for a whole life.

IV.

After the secondary symptoms have been once passed through, periods of latency may occur in the course of constitutional syphilis, during which the patient may consider himself in perfect health, and be wholly free from symptoms, but in which the taint still exists.

V.

Latent syphilis may be aroused into activity after long periods (several or even twenty years), by any influences which diminish the *vis conservatrix* of the patient's system, *e.g.* illness, impoverished diet, the climacteric period, the debility of advancing age, &c.

VI.

In all stages of constitutional syphilis,—whether during the secondary or tertiary symptoms, and even during a protracted period of absolute latency,—an individual may become the parent of a tainted child.

VII.

The degree of severity with which a child suffers from inherited taint is usually in proportion to the shortness of the period which has elapsed since the primary disease in the contaminating parent.*

* This law may be interfered with by several circumstances about to be referred to. (See Aphorism XVIII).

VIII.

When both parents are the subjects of syphilis the child is more certain to suffer, and more likely to suffer severely than if only one is so.

IX.

A child may inherit syphilis in a most severe form from but one parent—from its father alone, or from its mother alone.

X.

No data are as yet on record to warrant any opinion as to whether a child is more likely to suffer severely when its father is the source of contamination than when it derives the disease from its mother, or the reverse.

XI.

When a wife is the subject of constitutional syphilis and her husband is healthy there is a better chance that healthy offspring will eventually be produced than when the reverse is the case, since the father will remain without taint, and the mother's system will in the course of time gradually eliminate it.

XII.

When a healthy woman is pregnant with a syphilitic foetus her system suffers (in slight and variable degrees) from the re-sorption of the foetal fluids. This process (foetal contamination) is repeated during successive pregnancies if the father's system has not meanwhile been freed from the taint.

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XIII.

Women who acquire syphilis by foetal contamination only, rarely suffer from symptoms belonging to the *secondary* group. In most instances their symptoms are ill developed, and of the tertiary class—palmar psoriasis—sores on the tongue—cachexia—nodes, &c. Usually these symptoms make their appearance during a pregnancy, and often wholly vanish after delivery, to recur again when the woman is again pregnant.

XIV.

In a large proportion of the cases of inherited syphilis met with in practice, the taint is derived from the father only. In most of these the mother has suffered more or less from foetal contamination during her pregnancy, but has rarely presented any special symptoms.

XV.

A woman who has borne to a syphilitic husband a succession of syphilitic children, will often declare that she herself is in good health, and will be wholly without suspicion as to the real cause of her infants' ailments. It is exceptional, however, in such cases to find on careful enquiry that the mother has been entirely free from the evidences of foetal infection.

XVI.

A woman under the circumstances supposed in the preceding commentary may be the mother of a large family and yet show no specific symptoms herself, until the climacteric period, or even later. At the latter period psoriasis palmaris, syphilitic sores on the tongue, or cellular indurations in the legs not unfrequently occur without having been preceded by any other symptoms.

XVII.

Provided that both parents be of robust constitution, and that no irregular or enfeebling course of treatment have been adopted, it is to be expected that each successive child will suffer less than the preceding one. This will be the case whether both or only one of the parents have suffered.

XVIII.

Exceptions to the general law, that the later children suffer the least occur: 1st, whenever the stamina of the infecting parent (or parents) is gradually giving way under the morbid taint; or 2ndly, when, the father remaining in *statu quo*, the mother's system is gradually becoming contaminated by fetal infection during successive pregnancies. Under the latter circumstances the first child had but one diseased parent, whilst the later ones had two, the taint in the mother having been gradually developed.

XIX.

It is probable that in some cases constitutional syphilis (in either sex) prevents fertility, but, unfortunately, it does so but rarely. Many syphilitic persons (both women and men) are very prolific.

XX.

When a long succession of children all suffer severely from syphilis, it is probable, but by no means certain, that both parents are diseased.

XXI.

When there is clear proof that the elder children of a family are in perfect health, whilst the younger ones are

syphilitic, it becomes exceedingly probable that the disease has been contracted by one or other parent subsequent to marriage.*

XXII.

Should a single child in the middle of a healthy family present indubitable symptoms of syphilis—the older ones *and the younger ones* being wholly free—the only conclusions to which we can come, are, either that the sufferer is probably not the offspring of the reputed father, † or that accidental contagion of primary disease occurred in infancy.

XXIII.

The efficacy of specific remedies in eradicating a late remaining taint of constitutional syphilis, and thus enabling the father of syphilitic children to have healthy offspring has, I think, been much over-rated. In many cases the lapse of time alone well accounts for any improvement which may have been noted in the condition of succeeding children. In many cases, in spite of careful treatment, no such improvement is obtained.

XXIV.

The preceding commentary is by no means intended to discourage the employment of specific remedies, but only to repress a too confident reliance on them. Mercury is, I believe, the only trustworthy remedy under such circumstances. The utmost care should be taken that the patient's

* I am glad to be able to state that in my own experience cases of this kind have been very exceptional.

† I have seen one instance of this, and one only. It was a very remarkable one, the affected child being in a most miserable condition, and the symptoms well characterised whilst the other children were of good development and in excellent health. The woman was a sailor's wife and attributed the child's illness to her having been very badly off during the whole pregnancy, owing to her husband's absence.

constitutional powers be not too much depressed. Fresh air, change of air, and a full meat diet, are of great importance.

XXV.

A woman who has borne tainted children to a diseased husband may be treated carefully by specific measures during almost the whole of a subsequent pregnancy, and yet in spite of such treatment bring forth a child who will suffer very severely.

XXVI.

A husband who is himself wholly free from symptoms, and has been so for years, may yet beget tainted children.

XXVII.

At whatever stage the disease may be in the parent, and however long the interval since the date of the primary disease, the children will, if they suffer at all in infancy, present one, and the same class of symptoms, those namely of the secondary stage, and consisting in affections of the cutaneous and mucous surfaces.

XXVIII.

The foetus in utero may suffer from syphilitic inflammation, and may perish in consequence. It may so perish at any period of its intra-uterine life, but its death is most common either during the first three months or shortly before the completion of full term.

XXIX.

A very large majority of syphilitic infants are quite free from symptoms at the time of birth, and present every appearance of full development and good health.

XXX.

Syphilitic infants usually begin to present symptoms at the age of from one to two months. The earliest symptom is usually inflammation of the schneiderian membrane with snuffles; then follow a papular, blotchy, or scaly rash, stomatitis and marasmus.

XXXI.

It is a mistake to suppose that syphilitic infants always present a withered "old - man - like" aspect. In many instances although manifesting specific local symptoms, they grow well and remain plump and fat. If the cutaneous surface be extensively affected, however, and especially if there be disease of the liver the child usually wastes very remarkably.

XXXII.

It is a very remarkable fact, that although many syphilitic infants are dead born, yet it is extremely rare for them to be born alive and presenting at the time specific symptoms.

XXXIII.

The fact that syphilitic infants almost invariably present at birth the aspect of good health, points to the conclusion that the specific taint does not directly retard development.

XXXIV.

A syphilitic infant is born with a peculiar condition of its blood and solid tissues, which render it liable at various periods of life to certain peculiar forms of inflammation of special organs and parts. Unless these inflammations occur, there will be little or no evidence of the existence of the taint.

XXXV.

At one time (in March, 1861), the stoutest and healthiest looking baby which was presented during several weeks amongst the large numbers attending my out-patients-room at the London Hospital was a syphilitic one.

XXXVI.

That heredito-syphilis does not always impede development is not unfrequently seen to be illustrated in patients between fifteen and twenty, who are in every respect well grown. Whenever, however, the infantile symptoms have been extensive and severe the growth is impeded, and often in a very remarkable manner.

XXXVII.

It is probable that the arrest of growth, when it does occur, is not due immediately to contaminated blood, but to the indirect influence upon nutrition of impaired organs (more especially the skin and the liver) which have been damaged by syphilitic inflammation.

XXXVIII.

It is quite possible that a syphilitic infant may show no symptoms in early life (or such slight ones as to attract no notice), and yet at a later period suffer from tertiary ones. If, however, any occur in infancy, they will be of the secondary group, and if none of this group occur at that age, they will not appear at a later one.

XXXIX.

It is probable that many children show no symptoms in infancy who yet suffer in later life. In these the taint is usually slight. They are often the younger part of the family.

XL.

The anus may become abraded and sore during the first outbreak of syphilitic rash in infancy, but the true condyloma does not, as rule, show itself until the child is from eight months to three years old. Condyloma is often at the time of its occurrence a solitary symptom.

XLI.

That in the form of stomatitis to which syphilitic infants are subject, the alveolus and dental sacs often suffer, is proved by the fact, that every now and then actual necrosis and exfoliation of those structures take place. In almost all cases the gums are red and swollen.

XLII.

In the inflammation of the Schneiderian mucous membrane, to which the snuffles of infantile syphilis is due, the inner periosteum of the nasal bones usually suffers, and the development of the bones is usually interfered with.

XLIII.

When acute iritis occurs in consequence of inherited syphilis, it usually shows itself at an early period (three to six months), in conjunction with rash, &c.

XLIV.

Waxy disease of the liver is not uncommon in syphilitic infants.

XLV.

In conjunction probably with liver disease, a yellow pallor of the skin is also common in these infants, and now and then positive jaundice is met with.

XLVI.

Chronic arachnitis as evinced in a tendency to Hydrocephalus is very common in syphilitic infants, and occurs in almost all who suffer severely from the taint in question.

XLVII.

Nodes are not common in young infants, but do every now and then occur. If periostitis occurs at a very early age, the humerus is almost always the bone affected. I have never seen nodes in the head of an infant.

XLVIII.

At a more advanced age (two to six years), Nodes are not very uncommon. The humerus is still the bone most liable to suffer. Next to it the tibia, and then the ulna or radius. Excepting after contusions the bones of the cranium are rarely attacked.*

XLIX.

Nodes of the humerus in syphilitic children usually affect its lower part, are attended by great enlargement, involve the condyles, and often encroach on the elbow joint so as to limit its motions.

L.

Phagedenic ulceration of the palate occurs but rarely in heredito-syphilis. The patients in whom it does occur usually present other peculiar features, and are the subjects of extensive periosteal disease and extreme cachexia. Destruction of the alveolus of the upper jaw often accompanies it.

* I have, however, witnessed some cases of very extensive nodes of the skull bones in syphilitic children. In one instance almost the whole calvaria was involved. The patient, a boy of 8, was the son of a clergyman. His mother had been twice married : in the first instance to an officer in the army, from whom she contracted syphilis.

LI.

There is not the least clinical evidence in support of the belief that the common, tubercular, forms of Lupus (*Lupus exedens* and *Lupus non exedens*), has any connexion with inherited taint of syphilis.

LII.

The only form of disease resembling Lupus to which these patients are liable is, an erosive, almost phagedenic ulceration, which rapidly destroys a large extent of surface, and after which when once arrested, sound cicatrisation speedily ensues. It is quite distinct from true Lupus. It is of comparatively unfrequent occurrence.

LIII.

The diseases remotely dependent upon inherited syphilis are throughout specific and peculiar. With due care they may easily be distinguished from all other forms of scrofula.

LIV.

The physiognomical, dental, and other peculiarities, by which we recognise the subject of inherited taint when advanced beyond the period of infancy, are all of them the direct consequences of special inflammations from which the patient has suffered at former periods, *e. g.* the synechiæ and lustreless iris, of iritis—the malformed teeth, of periostitis of the alveolus and dental sacs—the protuberant forehead, of hydrocephalus—the flattened nose, of snuffles—the pale, earthy, opaque skin, of cutaneous inflammation and eruptions.

LV.

If in infancy a syphilitic child chance to escape one or

more of the special inflammations which are usual at that age, the corresponding physiognomical peculiarities will be wanting in older life. Thus if no stomatitis occur, the permanent teeth will be well formed; if no inflammation of the schneiderian membrane, the bridge of the nose will not be sunken.

LVI.

It is very important to recognise the fact that the peculiarities adverted to in the last two commentaries, are not produced by general "arrest of development," but by local inflammatory processes.

LVII.

There is no reason to suppose that heredito-syphilis in the least predisposes to phthisis, or to the tubercular forms of scrofula.*

LVIII.

If a syphilitic child live through the specific maladies of its early infancy (from which a very large mortality occurs), no special liability to any diseases involving risk to life will subsequently be shown.†

LIX.

Syphilis, like all other specific diseases, tends to manifest itself in certain well recognised stages. The symptoms

* Of the cases mentioned in this book, which comprise the history of more than 200 individuals, not one was the subject of phthisis, and but few of any of these forms of struma which are usually tubercular. I recollect, however, many years ago to have seen a girl under Mr. Startin's care for symptoms which we believed to be due to inherited syphilis, and who was the subject of advanced pulmonary disease. Unfortunately I have mislaid my notes of the case. The girl's mother had died of consumption.

† I have never known one of these patients the subject of acute internal disease, nor have I had an opportunity for post-mortem examination in any single case.

characteristic of its early stages, do not recur in its later ones.

LX.

The sequence of stages in the course of syphilis is as well more marked when the disease is the result of hereditary transmission as when acquired. In both it is not unfrequent for the tertiary stage to be wholly omitted. In proportion to the severity of the early symptoms is, in both, the probability that later ones will occur.

LXI.

The duration of the several stages of syphilis, even when the evolution of the disease is not interfered with by specific treatment, may vary very considerably, but still within certain limits.

LXII.

In its early stages syphilis usually affects superficial tissues, and their most external layers (tonsils, skin, and mucous membrane). In its later stages it attacks deeper tissues or organs (periosteum, bone, muscle, tendon, cellular tissue, substance of tongue, liver, nerves, brain, &c.), or the deeper layers of the same tissues as were previously affected.

LXIII.

Why should Iritis always occur out of order? Both in the infant suffering from inherited taint, and in the adult from acquired disease; iritis if it occur at all, shows itself early and amongst the secondary phenomena.*

* This is the rule; exceptions of course occur, but they are rare.

LXIV.

In acquired syphilis when the deeper tissues of the eye, choroid, retina, vitreous body, &c., are affected by syphilitic inflammation, it is usually in the early stage of the disease. This does not, however, apply to the inherited form, for although syphilitic children if they have iritis almost always have it within the first year, they rarely present any form of deep-seated disease of the eye until within a few years of puberty.

LXV.

In heredito-syphilis the interval between the secondary and tertiary stages is as a rule longer than it is in the acquired disease.

LXVI.

If a person who has suffered from acquired constitutional syphilis have passed two years from the commencement of this disease and have had no inflammation of any tissue of the eyes, he may be tolerably sure that these organs will not suffer in the future. Relapses of inflammation after previous iritis, choroiditis, &c., are common even after very long periods, but it is exceptional for any of these to originate after the interval mentioned.

LXVII.

The subject of heredito-syphilis is not free from the risk that some form of inflammation of the eye may occur until he has passed the age of thirty years.

LXVIII.

Of the tertiary diseases of the eye to which the subjects of inherited syphilis are liable, Interstitial Keratitis is the

most common. It is a very remarkable fact that this affection has no analogue amongst the phenomena of the acquired disease.

LXIX.

The entire absence of Interstitial Keratitis from the rôle of tertiary symptoms of *acquired* syphilis, although the most remarkable, is not by any means the only point in which the latter differs in its phenomena from those of the hereditary form. The following may also be mentioned: 1, a peculiar form of deafness occurs in the inherited syphilis; 2, indurations or ulcers in the tongue are common in acquired syphilis, and very rare in inherited; 3, osseous nodes are sometimes in the course of inherited syphilis developed to an extent never witnessed under other circumstances; 4, psoriasis palmaris in a chronic form is scarcely ever seen in inherited syphilis.

LXX.

Time is the great agent in the cure of syphilis. The system, if kept in health meanwhile, will by slow degrees eliminate the morbid poison.

LXXI.

The assertion that the syphilitic poison tends in the course of time to be eliminated by natural processes, must be limited to some extent. In exceptional cases the vis conservatrix of the patient appears to yield under the morbid influence, and to permit a gradual accumulation of diseased material and corresponding intensification of the diathesis.

LXXII.

That the early stages of syphilis may be shortened and that most of the special symptoms may be for the time

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removed by the use of mercury is fully established by clinical evidence. Whether, however, the patient's system sooner gets rid of all taint under that remedy than when it is not used is a question more open to doubt.

LXXIII.

It is probable that the laws of embryonic development (of certain organs and tissues from special layers), may be made to account to some extent for the sequence of symptoms in different tissues, both in syphilis and other specific diseases. Some of the facts well established by clinical observations, more particularly concerning the eye are, however, not easily so explained.

APPENDIX.

I AM induced to append the following report on Choroiditis, Retinitis, &c., as met with in connexion with acquired syphilis, partly on account of the great importance and comparative novelty of the subject and partly because of its close bearing upon the chief subject matter of the present work. In describing the affections of the eye which occur in heredito-syphilitic patients I have had to shew, that inflammations of the deep-seated tissues are by no means uncommon and I have repeatedly alluded to their analogues as met with in connexion with acquired disease. It is desirable, therefore, that the reader should be supplied with data by which to estimate the correctness of such allusions. I am not aware, that, with the exception of a few scattered cases recorded in the Journals, any English author has as yet examined this subject.*

ON CERTAIN FORMS OF INFLAMMATION OF THE DEEPER STRUCTURES OF THE EYE IN CONNEXION WITH ACQUIRED SYPHILIS.

It had long been suspected, even prior to our knowledge of the ophthalmoscope, that inflammation of the iris was not the only form of disease to which the eye is liable during secondary syphilis.† Iritis being, however, the only form which we could really demonstrate, our conjectures as to syphilitic retinitis, choroiditis, etc., were always more or less vague. The subjective phenomena were, for the most part, all that we had to guide us. The not unfrequent occurrence of loss of vision in the subjects of secondary syphilis, and without external disease, however, left little room for doubt as to the fact that the deeper tissues did sometimes suffer.

* Some cases by Dr. Bader will be found in the Journal of the Ophthalmic Hospital, together with an excellent illustrative plate.

† I well recollect cases in which the diagnosis of "Syphilitic Retinitis" was made at least ten years before the introduction of the ophthalmoscope.

The ophthalmoscope has now afforded us the power of investigating these forms of disease with great accuracy. There are few diseases of the eye the recognition of which is of greater importance. Very frequently they are attended by no congestion of the outer tunics of the eye, and by little pain; but if neglected, they often lead to destruction of the organ. The influence of specific treatment upon them is most marked and decisive.

The following group of cases will include instances in which the retina, the choroid, and the vitreous body were either alone or together the seat of inflammation. In some cases all these structures suffer simultaneously, whilst in others the inflammatory processes are restricted to one only; as a rule, but little pain and no intolerance of light attends them, and ophthalmoscopic inspection is easily borne. In some cases the iris inflames simultaneously, and then the examination of the deeper parts may become impracticable, as pain, dimness of the cornea, and intolerance of light are usually added.

Like iritis, these forms of inflammation appear to occur usually amongst the *secondary* phenomena of syphilis much more often than among the later ones. This point, however, as well as some others, I shall endeavour to establish by numerical statements at the conclusion of the report.

In certain instances of Amaurosis with white atrophy of the optic nerve, a syphilitic history is given. In these, however, the disease usually comes on long after the secondary period, and whether it is really connected with the taint may be held doubtful. Of the relation between cause and effect in the cases of which I am now about to speak, there is, however, no more doubt than there is in the instance of syphilitic iritis.

Case I.—Syphilitic retinitis of one eye a few months after the primary disease—Recovery under prolonged specific treatment.

The following are my very imperfect notes of a well-marked case. George P., aged 20, was admitted on March 31, 1859, complaining of impaired vision in his left eye. His left retina was found by the ophthalmoscope to be congested and hazy, looking as if thin gauze were before it. There was no iritis. He said that he had suffered from chancre a few months before, and that rash and sore throat had followed. The rash was now gone, but healing ulcers were still visible

in his tonsils. His other eye was not affected. I prescribed a pill containing half a grain of calomel and the same of opium, to be taken three times daily. In a week, he being slightly salivated, the pill was limited to once a day. Subsequently, as the progress was slow, he again took it twice a day.

With some intermissions mild mercurial treatment was continued until the beginning of September. During the latter part of the time, however, he took the pill only every other night. When the course was relinquished he had regained almost perfect sight. I saw him again on Jan. 2nd, he could then see almost equally well with either eye; but the right was still rather the better. All ophthalmoscopic evidences of disease had vanished.

Case II.—Syphilitic choroiditis of the left eye with films in the vitreous—History of a similar attack in the right eye three months previously—Primary syphilis a year before.

Mrs. P., aged 24, was admitted in Feb. 1860, on account of impaired sight and "dreadful forcing pain" in her left eye. There was no iritis, nor any visible sclerotic congestion. With the ophthalmoscope floculi were seen floating in the vitreous humour, and numerous patches of lymph, some white and some slightly brown, were visible on the choroid in various parts. The attack had commenced three weeks before. She stated that she had contracted sores from her husband during her previous pregnancy, and that subsequently a rash shewed itself. Her confinement was in March, 1859, and she was now again pregnant (two months). Her right eye had been inflamed three months before her present admission, and according to her account the symptoms had been much the same as those now existing in the left; she then attended Mr. Critchett, and although at first all but blind regained perfect sight. I prescribed mercurials but unfortunately have no note as to the progress of the case.

Case III.—Extensive turbidity of the vitreous in both eyes.—History of primary and constitutional syphilis four months before.

Mrs. M., aged 36, was admitted in July 1859. The two eyes were equally affected. She complained of dimly-seen muscæ and clouds of smoke before them, and was unable to

tell the time by the clock or to read the largest type. The attack had, she said, commenced about four months ago rather suddenly. The left was first affected, and soon afterwards the right also. With the ophthalmoscope the vitreous in each eye was seen to be turbid and full of white silvery films floating in its structure. The choroids and retinæ could with difficulty be seen.

Mrs. M. was the mother of nine children, and was now nursing her youngest, a baby ten months old. On her shoulders was a well-marked syphilitic rash, and she stated that her husband had communicated the disease to her in November last. Excepting being reduced by nursing she was in fair health. A mercurial course was ordered: the baby to be weaned. I have no record of the result.

Case IV.—Syphilitic choroiditis in both eyes, commencing two or three years after the primary disease—Advanced atrophic changes.

Mrs. B., aged 27, from Scotland, came under my care on May 16, 1861. She said she was blind of the right eye, and feared that the other was also failing. I found that with the right she could just distinguish large objects. She stated that her sight had begun to fail more than three years ago, and had been much as at present for a year past. She had been married seven years, but had borne no children. Excepting that she was rather pale her aspect was that of good health.

With the ophthalmoscope I found very extensive atrophic changes in the right choroid. The margins of the optic entrance could not be distinguished, and its position was only ascertained by tracing the convergence of the retinal vessels. The latter were extremely small. Irregular and ill-defined whitish grey patches were seen in various parts, but in none was the choroidal tissue wholly absent. The humours were clear and there were no iridal adhesions. In the left eye the same state was seen, but in a much less advanced degree.

As the state of the choroids was such as to render the diagnosis of syphilis almost certain, I put a direct question, and was reluctantly informed that she had contracted the disease from her husband about six months after her marriage. A rash followed, and she was treated by mercury to salivation. Since then she had believed herself well. She had borne no children, but had had two miscarriages.

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Case V.—Syphilitic iritis in an old person—Inflammatory opacity of the lens and vitreous body in each eye.

Mrs. B., aged 65, came under my care, in the first instance, on account of acute syphilitic iritis in both eyes. This was in August, 1860. The iritis had been noticed for a week, but she said that her sight had been getting dull for about a month. She had married for a second time five months before, and her husband had given her syphilis. She had a copious and most characteristic rash at the time. Her sight had in every respect been perfect up to the date of the syphilis. Treatment by iodides and mercurials was pursued, but although the iritis was arrested and the rash disappeared, the eyes did not progress satisfactorily. On Nov. 15, three months from the commencement of the iritis, the state of her eyes was described in the following note:—"Both pupils dilate fairly under atropine, but in both are seen tags of adhesion at several spots. In both lenses there are striae of opacity, but the changes are not such as to prevent the examination of deeper parts. In both eyes the vitreous substance is turbid, and presents innumerable floating films. In the right the turbidity is greater and the films larger. The retina cannot be examined in either eye, owing to the turbid state of the vitreous. She is obliged to be led about, and can only just distinguish large capital letters." Unfortunately, I had no opportunity for following this case further. I could not avoid the suspicion that the peculiar course taken by the disease was partly consequent on the advanced age of the patient. It is very unusual to have an opportunity of watching the course of true secondary syphilis attended by acute iritis in a patient of so advanced an age, and it may easily be supposed that at such a period of life, when the nutrition of the organ is impaired, inflammatory processes once established would be apt to run on to serious changes. Respecting the iritis it may be noted that it was never attended by any large effusion of lymph. The treatment was as active as the woman's age and state permitted. Mercurials were given cautiously, but on more than one occasion she was slightly salivated.

Case VI.—Syphilitic psoriasis palmaris and sores on the tongue—Iritis in the right eye—Diseased vitreous and choroid in the other eye—History denied.

Frances S., a feeble woman, calling herself 53, but looking ten years older, was admitted in October, 1860. She

assured us that she had had good sight until a year ago. Latterly her right had failed, and she had become somewhat myopic. Both her irides were deficient in lustre, and of steel grey aspect. The left pupil dilated widely, but the right showed numerous tags of adhesion. The iritis was evidently recent, and some sclerotic congestion was still present. She stated that the attack had begun three months ago, when both eyes became bloodshot; there was dimness of sight and great pain in the back of the head, preventing sleep for several nights. After this her hair fell off.

With the ophthalmoscope the left globe was found to be much lengthened, so that the fundus came into view without need for the lens. A very extensive ring of white was seen surrounding the optic disc. The choroidal pigment was irregularly scattered in patches. A single floating film was seen in the vitreous. In the right the optic disc was oval, and there was a long narrow crescent on its temporal side. No other changes.

The history as to syphilis was as follows: Mrs. S. had been married 28 years, and had one living child now aged eighteen. She had not lost any children, nor had she had any miscarriages. Her husband she believed healthy, and she denied having ever had any primary sores. There existed, nevertheless, a most characteristic form of psoriasis palmaris in both her hands, and her tongue shewed white patches and fissures which were unmistakable. These conditions had she said been present only four months.

Treatment.—When admitted the iodide of potassium in ten grain doses three times a day was prescribed, and a blister applied behind the right ear. The iritis soon passed off, and her vision much improved. She continued the iodide until Dec. 3, and with great benefit in every respect. On several occasions she had left it off for a time, but always found that she relapsed when she did so.

Case VII.—Double retinitis two years after primary syphilis—Films in the right vitreous—Sight much impaired—Irregular benefit from specific treatment.

Henry B., aged 28, admitted Nov. 1, 1860. His sight had been gradually failing since Christmas 1859. He ascribed it to night work, the flame of the lamp blowing towards his face most of the night. He first found that he could not see so well in the dusk, but his sight got gradually worse, so that on his admission he could not see to read

small print. He had slight supra-orbital pain, but sufficient to prevent sleep at night. He could see better in strong artificial light, but in strong sunlight his sight left him until he had been in it for a little time.

Three years ago he had syphilis and a "sloughing bubo." He took pills for a fortnight before the bubo appeared, but his mouth was not made sore. It is two years and a half since he got rid of these symptoms. He remained well a year and a half, and then hoarseness came on. On admission there was seen the remains of ulceration in the tonsils, and well marked syphilitic ulceration at the right corner of the mouth. On superficial examination the eyes appeared normal, and the pupils dilated well by atropine. He was pale but not thin. Tongue red at tip and edges. On examination by the ophthalmoscope it was noted that the margins of the optic entrance were very indistinct and of a pink colour, which tint extended over the whole uniformly-congested retina. There were films floating in the right vitreous. Ten grains of the iodide of potassium were ordered three times a day, and a blister was applied behind each ear.

He took the iodide to Jan. 3. On Jan. 3 one grain of calomel and half a grain of opium were given twice a day, and continued for one week. His gums were touched, and during the salivation he was decidedly better, and remained so for a week, but subsequently he relapsed. The calomel and opium were then again (Feb. 7) given every night, and were continued until Feb. 12, when in addition to the pill ten grains of the iodide of potassium were given three times a day.

On Feb. 14 it was noted that his sight was but little improved since admission. The ulceration at the corners of his mouth and on his lips were still present. There were some blotches about the forehead, and chest. His gums were still swollen. He was pale and cachetic. With the right eye he could read large letters, but not with the left. Feb. 26, no better.

Case VIII.—Synechia of both pupils with extensive choroidal disease in both eyes—History of repeated inflammatory attacks between the ages of 22 and 25—No reason to suspect hereditary syphilis.

December, 1861.—Miss S. B., aged 25, florid, healthy looking, from the country, a farmer's daughter, and of respectable family. Neither teeth nor physiognomy present

any peculiarity suggestive of hereditary taint; on the contrary, she is of good complexion and well-formed features.

Three years ago her left eye inflamed for the first time. A year later the right eye was attacked, and at the same time the left also again suffered. Since that she has had several distinct attacks, one, in which both suffered severely, was about two months ago. She has several times been profusely salivated, but denies having ever had any rash or sore throat. At the time of the first attack Miss B. states that she was much out of health—suffering from dyspepsia and debility,—but she denies having had any rash whatever.

State of the Eyes.—Both pupils are extensively adherent and dilate very irregularly on the use of atropine. There are in both thin films extending across the pupil, and it is with difficulty that the fundus can be inspected. In the choroid are numerous white patches (sclerotic), some of them abruptly circumscribed, others with ill-defined borders. The choroids generally are thinned, and in some places large masses of black pigment are scattered about. There is no congestion of the globes at present. As to vision, she can still see to read ordinary print, but only very slowly and with much difficulty.

Another surgeon examined the patient at my request, and agreed with me that no doubt could be felt as to the specific nature of the diseased conditions. The throat, mouth, and skin of arms, &c., were inspected, but nothing discovered which bore out the diagnosis. Notwithstanding the entire absence of corroborative history, yet from the nature of the disease—iritis and choroiditis in combination—its symmetry, and the age at which it began, I cannot feel any doubt that in this case the patient is really the subject of acquired syphilis. The case is a very interesting and important one. Had either the iritis or the choroiditis occurred singly, there would have been more room for doubt.

For obvious reasons no direct questions were asked.

April, 1862.—The changes being considerable no very great improvement can be expected. Under a three months' course of iodide of potassium her sight has however been decidedly benefited.

Case IX.—Constitutional Syphilis—Inflammation of the Retina and Hyaloid Membrane of One Eye Four Months after the Primary Sore.

Mary J., aged 22, married, was admitted under my care, at the Metropolitan Free Hospital, on April 9, 1861. She

came on account of constitutional syphilis, and acknowledged having had primary sores four months before. Her symptoms when admitted were—condylomatous patches on the dorsum of the tongue, on the lower lip, and on the pharynx. She also complained of much headache, and had profuse leucorrhœa. It was not until a fortnight later that I knew of her eye being affected. On April 23, I quite accidentally noticed that her right pupil was nearly twice the size of the other, and found on trial that it was insensible to light. There was not the slightest external congestion, the mydriasis being the one symptom which drew my attention to the eye. On being questioned, she told me that for two months this eye had been "dim and misty," and that she had had a good deal of pain in her forehead and through the globes, "like needles sticking through the eyes." The pain had not, however, been enough to keep her awake at nights, and as she could still see perfectly with the other eye, she had not thought the symptoms described worth mentioning. I found on trial that she could not count fingers with the affected eye. There was no iritis and not the slightest intolerance of light. The pupil dilated widely under the influence of atropine. With the ophthalmoscope the following conditions were discovered and were demonstrated to numerous observers who were present:—The retina was congested and deficient in transparency, looking as if seen through gauze. In the vitreous was a single large floating body, which in some positions looked black and opaque, in others filmy and whitish. There was no diffused turbidity of the vitreous. As usual, the retina bore the examination without appearing in the least irritated by it. In the other eye no morbid conditions were observed. Up to the date at which I discovered the state of her eye, no specific treatment had, for special reasons, been adopted. We now at once commenced the employment of mercurials. A pill containing half-a-grain of calomel and half-a-grain of opium was ordered three times a day, together with a draught containing five grains of iodide of potassium. On May 7, she was so far improved as to be able to make out large letters. Her gums were slightly affected by the mercury, and the pill was consequently omitted.

May 28.—The pupils are now of equal size, and equally sensitive to light. She can see to read ordinary type with the affected eye. The iodide of potassium is still continued. With the exception of the leucorrhœa, the other symptoms have disappeared.

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Case X.—Syphilitic Retinitis in one Eye—Opaque condition of the Vitreous Body—Syphilitic Rash, etc.

Mrs. V., aged 23, had been for some time, several years ago, under my treatment, on account of contracted cervix uteri. On August 6, 1861, she applied to me with the statement that she had lost the sight of her right eye. I found her now with a very well characterized syphilitic rash on the arms, trunk, and neck. This rash, she said, had been out for about six months. Before it came out she had suffered from discharge, but was not aware that there were any sores; afterwards her throat was very sore. According to her account no specific treatment had been adopted until a fortnight ago. She had lost much flesh, and her aspect was decidedly that of syphilitic cachexia.

She stated that her eye first began to be dim about five months ago, and she then applied at an Ophthalmic Hospital. "It was as if she looked through dirty water." She had no material pain at first, but the dimness increased; no specific remedies were used. Ten days ago she rather suddenly became quite blind in the affected eye, and had also severe pain in the globe.

August 6.—The right eye is slightly congested and irritable. The pupil dilates well with atropine, and there are no adhesions. The iris is, however, somewhat muddy. The reflex obtained is one uniform yellow grey; no vessels are visible, nor can the optic disc be discovered; no floating portion can be seen. The fundus of the other eye is normal.

In September the eye again was carefully examined at the Moorfields Hospital. She could now just see the shadows of fingers. The whole vitreous was opaque and of a foggy, white-grey appearance. On looking closely without the lens its dissepiments were easily seen; they were somewhat tremulous; not the slightest glimpse of the retinal vessels or optic disc could be obtained. Although Mrs. V. asserted that she could see well with the other eye, yet on ophthalmoscopic inspection I found a large, abruptly-circumscribed patch of effused lymph between the choroid and retina, very near to the yellow spot. Its surface was greyish yellow, its margins yellow and fringed; several retinal vessels were seen crossing it. On being again questioned, Mrs. V. admitted that her sight with this eye was not so good as usual; for instance, she could not thread her needle, but

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comparing it with the left she had not considered that there was anything worth mentioning.

A week after the last note, the right eye was attacked with acute iritis attended with most severe ciliary pain. For this the patient is still attending. Great difficulty has been experienced in influencing either the disease or the constitution by mercury; although four grains of calomel have been given daily in divided doses for nearly a month, yet no ptyalism has been induced. The eye is slowly improving as to pain, but there appears great reason to fear that sight will not be restored.

Case XI.—Syphilitic Inflammation of Retina and Hyaloid Membrane—History of Primary Disease Three Months before—Recovery under Mercurial Treatment.

Mrs. W., aged 34, the wife of a commercial traveller in Yorkshire, came under my care in March, 1861. She was palid and out of health. Her left eye only was inflamed, but in the right cornea was an old opacity which had for years prevented any useful vision, and which now also prevented ophthalmoscopic examination. The sclerotic of her left eye was considerably congested, but there was no perceptible iritis. She complained that she saw a fog before the eye, and described severe circumorbital pain, from which she had suffered for about a fortnight. Previous to the attack her sight had been perfect in the inflamed eye. At present she could not read No. 16, and could only just distinguish capitals. On using atropine the pupil dilated widely, but with a single tag of adhesion at its lower part. The vitreous was hazy, and it was with some difficulty that the fundus could be seen distinctly. The margins of the optic disc were ill-defined, owing to the effusion of a thin deposit of lymph. The trunks of the vessels were here and there concealed by minute dots of lymph. The area of inflamed retina extended widely but irregularly around the optic disc, including the yellow spot. These conditions, of course, suggested a syphilitic history. I found, on enquiry, that she had had what she learnedly termed "pruritus" about three months ago, after which a rash made its appearance, and was attended by sore throat. On her arms were still to be seen numerous copper-coloured blotches, the remains of the rash, and both tonsils showed the evidences of recent ulceration. The Surgeon under whom she had been treated

had considered the disease venereal, but she had not been salivated.

At my request Mrs. W.'s husband came to see me ; but he stoutly denied having had any venereal affection.

The treatment consisted in local bleeding and the use of calomel and opium, with full doses of iodide of potassium. Ptyalism was rapidly induced, and the sight improved surprisingly. On April 11 (about a fortnight after the treatment was begun), she could read brilliant type with the affected eye, and the pain was wholly gone. The haziness of the vitreous and retina was very much less. A mild specific treatment was still continued. On May 16, she returned into Yorkshire, having almost perfectly regained her sight. A slight occasional mistiness was now her only symptom. The margins of the optic disc were now clearly defined, and the retina had to a great extent recovered its normal condition of transparency.

Case XII.—Double Iritis with Inflammation of the Vitreous Body and Retina in Both Eyes—Opacity of the Vitreous with Floating Film in the Left—Treatment by Iodides—Left Vitreous still Opaque a Year after.

The following case is valuable on account of the prolonged period over which the notes extend. It appears probable that one of the eyes has been permanently lost by inflammation of the vitreous body :—

A. J. L., a pale young man, aged 21, of fair complexion and delicate appearance, was admitted under my care on October 18, 1860. He came on account of subacute iritis in the left eye, and stated that he had had an attack in the right one month before. The right pupil dilated fairly under atropine, but some tags of adhesion with much pigment were made visible. The left dilated very irregularly, being adherent by recent lymph at several spots. The symmetry of the disease and the age of the patient left little doubt that syphilis was its cause, but the history obtained was imperfect. About a year ago he had "a running," but no symptoms for which mercurial treatment was thought necessary, nor was it followed as far as could be made out, by any secondary symptoms, the iritis excepted. He had been salivated for the iritis in the right eye. The left had been inflamed about a week. In neither had the attack been attended by much pain. Atropine drops were ordered, and

a grain of calomel with a quarter grain of opium twice a-day.

On October 22, I dictated the following note:—"Both pupils widely dilated without adhesions visible to the unassisted eye. With the ophthalmoscope, pigment patches are seen in front of right lens, and the right vitreous body is dim and full of opaque moving films. In the left eye the vitreous is muddy, and some very fine films are seen. The left retina is hazy. The right retina cannot be seen." Ordered, ten grains of iodide of potassium three times daily. Omit pill.

October 25.—Much better; pupils well dilated.

November 1.—Sight much improved. Repeat the mixture.

8th.—The right retina can now with difficulty be brought into view. It is hazy and greatly congested. The edges of the optic disc cannot be distinguished.

15th.—He is now quite free from pain. Can read with the left, but not with the right.

With some omissions he continued the full dose of iodide of potassium regularly, from October 22 to January 3, greatly improving both in health and in sight during its use. At the latter date it was changed for a draught containing five grains of iodide of potassium, and five mimims of tincture of iodine, which was continued steadily until April 1. At the last date he still remained without any useful vision in the right eye, and its vitreous was still opaque and containing films.

During the summer of 1861 he did not attend, but on October 14, he again presented himself. He now complained that his right eye was getting worse, and that he could scarcely see at all. On examination it was found that he could but just distinguish shadows with it. The pupil was clear and the iris dilated fairly. He said that the eye had been getting worse for a month. It was not congested, and beyond a little aching, there had been no pain. He could read easily with the left. On ophthalmoscopic examination I found his left vitreous so opaque that the optic disc could not be brought into view. Here and there a retinal vessel could just be distinguished, as if through thick fog. In all parts of the vitreous were slender filaments of opaque membrane, which were thrown into quivering motion by all movements of the globe. In the left eye both retina and vitreous had wholly recovered.

As the opaque state of the vitreous of the right eye has now existed for a year, with relapses and in spite of treatment, it is much to be feared that it will be permanent, at any rate in some degree. It will be observed that reliance was chiefly placed on iodide of potassium in the treatment, the man's feeble state of health being held to discourage the use of mercury. He had, however, been salivated before coming to the Hospital, and calomel was given during the first three days of his attendance. No other symptoms of constitutional syphilis have occurred, but I feel no doubt as to the correctness of the diagnosis in this respect.

Case XIII.—Primary Syphilis followed by Rash—Failure of Sight Three Months later—Opaque Condition of the Vitreous in both Eyes.

Thomas R., aged 36, a sailor, of dark complexion and healthy aspect was admitted in April, 1861. He stated that his sight had been perfect until the preceding September, when it began to fail in the right eye, and soon afterwards in the left also. He had no material pain. Three months before the failure of sight he had a chancre, which was followed by rash on the legs, thighs, and scrotum. He was laid up for six weeks, and was salivated. He considered that his sight had been as bad as at present since March last. By aid of the ophthalmoscope the reflex was found to be of a dull reddish-brown. There was a diffusedly opaque condition of the vitreous in both eyes. He was examined by several observers, and none could see the optic disc in either eye. There was no effusion of blood. I have no note of further progress. Specific remedies were, of course, ordered. It will be noticed that he had been salivated for the original disease.

Case XIV.—Syphilis, Primary and Constitutional—Failure of Sight in One Eye, Three Months after the Primary Disease—Retinitis.

Mrs. L., a pale woman, aged 23, was admitted May 27, 1861. The sight of the right eye had been failing for about three months and a fortnight. It came "as a little fluff," which she "attempted to brush off." She was confined a month before admission. The child was a large one, but it had been, she said, "dead for ten days before birth." She, poor woman, ascribed her illness to grief, which "turned her blood, and caused her to come out in sores on the

privates and blotches on the skin" five months ago. She was under Medical care, and was improved by treatment. She never saw well with the left eye. There are extensive white-margined superficial sores on the tonsils and velum, scars of deep ulcers in the tonsils. A general haze of the vitreous and choroid was all that was seen by the ophthalmoscope. Iodide of potassium, ten grains three times a day, was given. June 10.—Improved. Can now read ^{brilliant} fairly. Not the least congestion of tunics. On July 17 the mistura ferri composita was given instead of the iodide. On August 12 she complained that she could not see so well as a few weeks ago. She could see objects below the axis, but not well above; thus, she could read No. 1 easily when looking downwards, but not No. 20 when held above her. There were still margined patches on the velum. The iodide was again prescribed. September 23.—She had much improved since resuming the iodide. Can read No. 1 with either eye—irides clear and lustrous. She looks well, and has gained colour whilst taking the iodide.

Case XV.—Right Eye almost Sightless for Ten Years—History of Constitutional Syphilis treated by Mercury Eleven Years ago, and followed by Loss of Sight—No Evidence of Iritis—Other eye not affected.

Louisa H., aged 34. She says she is a widow. Eleven years ago she had sores, followed by rash, all over the body, and was salivated. During this treatment her eyes began to suffer, but in a little time the inflammation "settled in the right," and the left quite recovered. In about a year the right eye was reduced to about the same state as it is now. She is well aware that her loss of her right eye was consequent on "the disease," and told me so spontaneously. She now is florid, and, excepting acne of the face of rather a suspicious tint, looks healthy. She says that her sight has not varied for ten years, and by the help of the sounder eye she has been able to get her living as a tailoress. With the right she can only see a hand passing before it. She has lately been anxious about the left, but I cannot make out that there are any evident symptoms of failure. She can read easily.

Ophthalmoscope.—The right pupil dilated freely with atropine without showing any adhesions. The fundus of the eye was cloudy, the media being perfectly clear. The vessels entering at the optic disc were extremely minute, almost

thread-like, and the margins of the latter were merged in the surrounding fundus, except here and there, where a segment of distinct rim could be seen. The optic disc was very pale. In all parts of the fundus were extensive patches of glistening white, nowhere well defined, and crossed irregularly by tufts of choroidal vessels. Many pigment patches were also seen, and at the yellow spot, and around it the exposure of black pigment, in caudate patches resembling small beetles, was especially noticeable. In the other eye I did not observe any peculiarity except that the optic disc here also was rather indistinctly margined ; no patches, and no exposed pigment.

Case XVI.—Syphilis during Pregnancy—Congenital Syphilis in the Child—Inflammation of the Choroid and Retina in the Mother.

Mrs. H. and her infant were admitted under the care of Dr. Hughlings Jackson, at the Metropolitan Free Hospital, the mother labouring under the effects of acquired, and the child of congenital syphilis. During her pregnancy with this child she had primary syphilis from her husband, and subsequently a secondary rash all over the body, the stains of which remain. The child was, as usual, born healthy, but he soon had a breaking out of "ulcers" on his head, and when Dr. Jackson saw him, then six months old, the child had cellular nodes and evident marks of congenital syphilis.

As to the mother, one week after the birth of the child she began to suffer severe pains in the vertex and temples. She next had pain in the eyes and dimness of sight, and was treated for iritis at the Moorfields Ophthalmic Hospital with mercurials, iodide of potassium, and blisters. She then attended at a General Hospital, and was treated for debility.

The pupils dilated well by atropine, leaving, however, a little pigment on the lens. The vitreous and choroid were very hazy, the margin of the optic entrance indistinct, and the vessels small. Dr. Bader, who examined the eyes with the aid of the ophthalmoscope, at once pronounced the affection to be syphilis.

Iodides were again given, and Plummer's pill, five grains, three times a day. She attended only twice. During that time a little improvement took place.

Case XVII.—History of Primary Syphilis—Inflammation of the Deeper Structures of the Eye.

Henry W., aged 25, admitted April 10, 1860. The left eye had been failing six weeks. One evening, on going out into the street, he saw a halo, like a rainbow, all round a street lamp. The lamp was about fifty yards away. The halo got less as he neared the lamp. This continued for a week. He could then read pretty well, but it was dim. A fortnight before admission, whilst reading with a shade over his candle, the shade fell off, and the "light came with such force that it sent a shock from the eye to the back of the head." Ten days ago pain "came over the temple, and went right to the back of the head." It was relieved by pressure. For two days before admission his eyes had been bloodshot. The superficial tunics of the eyes were congested, and he complained of occipital pain. The pain was only at intervals; he thought it was from the light. When he looked at the light in the morning it came on. Under atropine the pupil dilated round. On April 12 the pupil was oval, and under atropine it dilated (still oval), from above downwards. No adhesions were seen. The sclerotic looked much congested. He complained of pain in his temple. The history of venereal disease was as follows:—He had gonorrhœa a year ago, for one week. At the same time he had a chancre on the glans, which continued for five weeks. He took pills until his mouth was slightly sore. He had at the same time an enlarged gland in the groin. He had had no rash. On April 19, Mr. Hutchinson examined him by the ophthalmoscope, the pupil being well dilated by atropine. "Retina is clouded, as if seen through a medium not perfectly transparent. No evidence of patching, nor any evidence of floating bodies in the vitreous." He still has pain in the temples, and now the occipital pain seems to have come forward to about the attachment of the sterno-mastoid muscle. The pain in the temple prevented him sleeping for two nights. The pain was, he said, attended by pulsation, like his pulse. There is no note of any previous treatment. At this date four leeches were applied, and iodide of potassium, five grains three times a day, was given, and atropine used. He continued attending until November 15. The pupil when under the influence of atropine was always oval, and when not was much smaller than the other. He had occasional attacks of pain around the orbit. On January 18 he began

to notice a central black speck in the eye, which increased when he looked in the distance, so that probably it was due to some more local impairment of the retina. Unfortunately there is no note of any ophthalmoscopic examination. He took, for a short time, pills of calomel and opium, but did not improve much in sight. He had less pain.

TABULAR STATEMENT, &c.

IN the following tabular statement I have included the seventeen cases above given, as well as those of eight others, the full details of which I abstain, out of regard for my reader's patience, from printing. The remarks upon the entire series will be found at page 250.

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TABULAR STATEMENT OF TWENTY-FIVE CASES OF
SYPHILITIC CHOROIDITIS, RETINITIS, &c.

TABULAR STATEMENT OF TWENTY-FIVE CASES

No.	Name, Date of Admission, Occupation, State of Health.	Age	History of the primary disease, and of its treatment.	Interval between primary disease and the affection of the eyes.	Other symptoms present at the time of admission.	History of the Ophthalmitis
1	George F. March 31, 1859	20	Had had a chancre, rash, and sore throat	"A few months"	Ulcers in the tonsils	The left eye had been failing in sight for a week or two
2	Mrs. P. Feb. 1860 Married	24	Sores followed by rash	8 months right eye, 11 months left eye	None. Pregnant	Her right eye had suffered three months before, and had quite recovered. The left was attacked three weeks before admission
3	Mr. M. July, 1859 Married	36	Primary sores followed by rash. No note as to treatment	4 months	A copper-tinted rash on the shoulders. Debilitated by nursing	The left was first affected, and soon afterwards the right. The loss of sight rapidly increased
4	Mrs. B. May, 1861 Married	27	Married 7 years ago, and had sores followed by rash six months afterwards. Was salivated	3 years	Not known. She appeared in fair health when admitted	The right was first affected, and progressed slowly. The left did not begin to suffer till a year later
5	Mrs. B. August, 1860 Married	66	Primary sores, followed by rash and sore throat. She had been treated by mercury	4 months	Syphilitic psoriasis and double iritis	It commenced in both simultaneously, and progressed almost pari passu
6	Frances S. October 8, 1860 A feeble cachectic woman	53	She denied having had any primary disease. Married 28 years; one living child, at 18. Subject for four months past to syphilitic psoriasis palmaris, and sores on tongue	Doubtful	Psoriasis palmaris and syphilitic patches on the tongue, both of them most characteristic	Her sight had been failing for a year. She was admitted with iritis of the right eye
7	Henry B. Nov., 1860	28	Primary sores and open bubo three years before. Treated by mercury	2 years	Cachexia. Ulcerations in the tonsils, and at the corners of the mouth	His sight had been failing for eleven months with but little circumorbital pain. No iritis
8	S. D., a farmer's daughter, healthy-looking	25	No primary disease acknowledged	No other symptoms at the time of admission	Three years ago the left eye inflamed, and a year later the right, and at the same time the left for a second time. Several attacks since. Has been several times profusely salivated

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OF SYPHILITIC CHOROIDITIS, RETINITIS, &c.

State of the Eyes at the date of Admission	Treatment, Progress, and Results	Remarks	No.
Left retina congested and hazy. Vision much obscured	A mild mercurial course was persevered in with some intermissions for five months. He recovered almost perfect sight	The disease affected but one eye. A mild case of retinitis.	1
Left choroid patched over with lymph, and the vitreous containing films. Impaired vision and much tensive pain	The right eye had perfectly recovered under mercurial treatment. No note as to the left		2
White films floating in all parts of both vitreous humours. Vision very much impaired. Muscae	No note as to the results of treatment	The turbidity of the vitreous prevented satisfactory examination of the retina and choroid	3
Extensive effusions of lymph into both choroids, followed by absorption and atrophy. Changes most advanced in the right eye	No specific treatment appeared to have been adopted for the eyes. The disease was of three years standing when I saw her	The disease appeared to have been insidious and gradual, but I doubt much whether the interval (Col. 4) had been as long as she stated	4
Double iritis with much intolerance. Ophthalmoscope not used until some weeks later	Mercurials and iodides were freely used. The iritis passed off, but both lenses became partially opaque, and there were extensive changes in the vitreous in both eyes	When last seen the woman was almost blind from the turbid state of the vitreous in both eyes	5
Both irides steel grey, right pupil irregular. Staphyloma posticum, atrophy of choroid, and film in the vitreous of the left eye	She was greatly benefited by a course of iodide of potassium	This is the only example of extensive staphyloma posticum which I have seen in connexion with syphilitic changes	6
Both optic discs ill-defined and congested. Both retinae hazy and congested. Films in the right vitreous	He was treated by mercury and iodides, and derived some benefit, but subsequently relapses occurred	In this case the disease had come on late and had been long neglected	7
Both pupils extensively adherent, and dilate very irregularly by atropine. Films across the pupil; the fundus seen with difficulty. Numerous white patches in the choroid; some abruptly circumscribed, others with ill defined borders. Can see to read ordinary print, but very slowly, and with much difficulty	She was treated with iodides and mildly with mercurials, and with considerable benefit	Although no history could be obtained in this case of the primary disease, yet the condition of the choroids, and the coincidence of iritis, left no doubt on my mind	8

TABULAR STATEMENT OF TWENTY-FIVE CASES

No.	Name, Date of Admission, Occupation, State of Health.	Age	History of the primary disease, and of its treatment.	Interval between primary disease and the affection of the eyes.	Other symptoms present at the time of admission.	History of the Ophthalmitis.
9	Mary J., April 9, 1861, Married	22	She had primary disease four months ago	2 months	Condylomatus patches on the dorsum of the tongue, lower lip, and pharynx; leucorrhœa	Dimness and mist before the eye (the right). Pain in the forehead, and pain like "needles" in the eyes
10	Mrs. V., August 6, 1861	23	She had had syphilitic rash six months before her admission, but did not know whether she had had sores or not	Doubtful	Well characterised syphilitic rash on the arms, trunk, and face, for six months	The right eye. She said that about five months ago the right eye began to be dim, as if "looking through dirty water." The dimness increased, and ten days ago she rather suddenly lost all sight in it, and then had severe pain in the globe. The other eye was a little effected, e. g., she could not see with it to thread her needle
11	Mrs. W., March 28, 1861, Pale and out of health	34	She had had what she called "pruritus" three months ago, followed by copper-coloured rash. Her Surgeon considered it venereal. She had not been salivated. Her husband denied having had any syphilitic affection	3 mths. (?)	Copper coloured blanches on the skin, and evidence of recent ulceration in the tonsils.	She had had a "fog" before the eye, and severe circumorbital pain for a fortnight. (In the right eye was an old corneal opacity, which had prevented useful vision for years)
12	A. J. R., Oct. 18, 1860, Pale and delicate	21	A year ago he had a "running," but no mercurial treatment was thought necessary by his Surgeon. He had no secondary symptoms, except the iritis, etc.	1 year i.e., 1 year before the iritis	None	He attended for subacute iritis in the left eye. He had had iritis in the right a month before

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OF SYPHILITIC CHOROIDITIS, RETINITIS, &c.

State of the Eyes at the date of Admission.	Treatment, Progress, and Results.	Remarks.	No.
There was no iritis and no intolerance of light. One pupil was more dilated than the other; it dilated fully by atropine, and without showing any adhesions. The retina was congested and deficient in transparency, looking as if seen through a gauze. In the vitreous was a single large floating body, which in some positions looked black and opaque; in others, filmy and whitish. No diffused turbidity in the vitreous. She could not count fingers with the affected eye	No specific treatment for the eye was adopted until April 23; then calomel and opium were given three times a-day, and iodide of potassium. She improved, the other symptoms disappeared, and on May 28 she could read ordinary type		9
The whole right vitreous was opaque and of foggy white grey appearance. Not the slightest glimpse of the optic disc nor retinal vessels could be obtained. Quite blind with this eye. In the left eye there was found a large, abruptly-circumscribed patch of effused lymph between the retina and choroid, very near the yellow spot; but as stated, she averred that her sight with this eye was good for ordinary purposes	Calomel was freely given, but there was great difficulty in producing any effect on the disease or the usual constitutional influence of mercury	She had subsequently an attack of iritis in the right eye. There is little hope of any improvement of vision in this eye	10
The pupil dilated widely, but with a single tag of adhesion at its lower part. The vitreous was hazy, and it was with some difficulty that the fundus could be distinctly seen. The margins of the optic nerves were ill-defined, owing to the effusion of a thin deposit of lymph. The trunks of the vessels were here and there concealed by minute dots of lymph. The area of inflamed retina extended widely, but irregularly round the optic disc. She could not read No. 16	Local bleeding, calomel, and opium, and the iodide of potassium. On April 11 she could read No. 1 (brilliant). On May 16 she could see almost as well as ever. The margins of the optic nerve were now clearly defined, and the retina had to a great extent recovered its transparency		11
On October 18 there were adhesions in both pupils, but on the 22nd none were seen except by the ophthalmoscope, and these as pigment patches on the lens. The right vitreous was dim, and full of opaque moving films. In the left the vitreous was muddy, and some very fine films seen. The left retina hazy; the right not to be seen.	For the first few days he took calomel and opium, but on October 22, ten grains of the iodide of potassium were given three times a-day instead. This he took, improving much in health and strength, to January 3, when five grains of the iodide with tincture of iodine were given. This he took to April 1, and then ceased to attend. He had not recovered any useful vision in the right eye	He again attended October 14, 1861. The right eye was still pretty much in the same state; in the left, both the retina and the vitreous had wholly recovered	12

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TABULAR STATEMENT OF TWENTY-FIVE CASES

No.	Name, Date of Admission, Occupation, State of Health.	Age	History of the primary disease, and of its treatment.	Interval between primary disease and the affection of the eyes.	Other symptoms present at the time of admission.	History of the Ophthalmritis.
13	Thomas R., A sailor, April, 1861	36	About nine months ago he had chancre, followed by rash on the legs, thighs, and scrotum. He was salivated.	3 months	None	Six or seven months ago his sight began to fail in the right eye, and soon afterwards in the left also
14	Mrs. L. Married, Fair health, May 27, 1861	23	She was confined three months ago of a child which the Doctor told her, had been dead ten days. Although she was not aware of it, there is clear evidence that she had primary syphilis five months ago	Nearly 3 months	Extensive white margined superficial ulcers on the tonsils and velum palati. Scars of deep ulcer, in the tonsils	The right eye: the sight had been failing about two months and a fortnight. It began by a sort of "fluff" before the eyes, which she tried to remove
15	L. H., Widow (?), Tailoress, Healthy	34	Eleven years ago she had sores, followed by rash all over the body, and was salivated. (See col. 6.)	During treatment for the primary symptoms	She was well aware that the loss of the right eye was due to "the disease," and told me so spontaneously, but except acne of the face of rather suspicious tint, she looked healthy	During the treatment for the primary disease eleven years ago, her eyes began to suffer, but in a little time the inflammation "settled in the right," and the left quite recovered. In about a year the right eye was reduced to about the state it now is
16	Mrs. H.	35	She had primary syphilis during her pregnancy with a child now six months old, and suffering from congenital syphilis. No note as to the treatment of the primary disease.	Less than 9 months	Stains of a rash which she had after the primary syphilis. Her infant had cellular nodes, etc.	One week after the birth of the child (six months ago), she had iritis, for which she was treated by mercurials, iodides, etc.
17	Hy. W., April 19, 1860	25	Gonorrhœa and a chancre a year ago. He took pills until his mouth was slightly sore. He had then also an enlarged gland in the groin. No secondary symptoms except the disease of the eye.	11 months	None	Left eye only. Six weeks before, he saw a halo round a lamp in the street. Ten days ago he had severe pain in the head, and the eye became congested.
18	Mrs. P., Married, Cachectic, B. page 36	31	Had syphilis eleven years ago, and had since borne seven syphilitic children	...	Nodes and cachexia extreme	She had been quite blind of the right eye for many years

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OF SYPHILITIC CHOROIDITIS, RETINITIS, &c.

State of the Eyes at the date of Admission.	Treatment, Progress, and Results.	Remarks.	No.
By aid of the ophthalmoscope, the reflex was found to be of a dull reddish-brown. There was a diffusely opaque condition of the vitreous in both eyes. He was examined by several observers, and none could see the optic disc in either eye	Specifics were ordered, but unfortunately there is no further note of progress	It will be remarked that he had been salivated for the original disease	13
The sight was not much impaired. The pupil dilated well by atropine and nothing except a little haziness of the vitreous humour was observed. She had no pain.	Under the use of the iodide of potassium in ten grain doses, the sight improved; so that on June 10 (a fortnight after admission) she could read No. 1 type. On July 17, mist. ferri. co. was substituted. She again relapsed, and on August 12, she could not read No. 20, when the board was held above her, but could still read No. 1 when it was held above her. By specifics she again rapidly improved.		14
The right pupil dilated freely with atropine without showing any adhesions. The fundus of the eye was cloudy, the media being perfectly clear. The vessels entering at the optic disc were extremely minute—almost thread-like—and the margin of the optic disc was merged in the surrounding fundus. Optic disc very pale. Many pigment patches at the yellow spot	No note of treatment	She said that for ten years the sight has been about the same, and by the left eye she has been able to earn her living as a tailorress. She had recently been anxious about the latter, but I could not make out any evidence of failure. She could read easily. The optic disc was rather indistinctly margined	15
Vitreous and choroid very hazy: margin of optic entrance indistinct, and the vessels small. Dr. Bader, from the ophthalmoscopic appearances only, diagnosed syphilis	Iodide of potassium and mercurials (Plummer's pill) were given, and a little improvement followed, but she only attended twice	This patient was under the care of my friend Dr. Hughlings Jackson, at the Metropolitan Free Hospital	16
Pupil dilated well without adhesions. "Retina clouded, as if seen through a medium but imperfectly transparent. No evidence of patching, nor any evidence of floating bodies in the vitreous. He had much pain shooting into the eye from the occipital regions of the head. There is, unfortunately, no exact note as to sight, but there was no useful vision	He took iodides and mercurials, but the pain, although often better for a time, was often severe. He did not improve materially		17
The vitreous body of the right eye was so opaque, that I could not illuminate the fundus. In the left eye the media were perfectly clear, and the structures of the fundus norma	Specific treatment was adopted for the other symptoms, but as regards the eye no hope of benefit could be entertained		18

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OF SYPHILITIC CHOROIDITIS, RETINITIS, &c.

State of the Eyes at the date of Admission.	Treatment, Progress, and Results.	Remarks.	No.
On the use of atropine fine tags of adhesions were discovered in both pupils. The media were perfectly clear, but the retina in each was slightly hazy, that of the right being especially so	Iodide of potassium in four grain doses three times a day was continued for four months, and with steady improvement. She regained almost perfect sight, but the right was still not quite so strong as the other. When examined by the ophthalmoscope in April, the retina of the right, near the optic disc, was still slightly hazy	In this case the interval was unusually prolonged	19
Pupils of normal size, and fairly mobile, the right perhaps a little sluggish. Large patches of exposed sclerotic in both, bordered by pigment. In the left, one of the patches was close to the optic disc. Disorganisation of the choroid was extensive, the patches being large and very definite. She cannot now with the left see the largest letter on the boards; with the right can spell out capital letters	Mercurials and iodides. Under treatment the sight improved a great deal	From the state of the eyes, I suspected that the diseased processes must have commenced at an earlier period than the patient assigned	20
Pupils of normal size, fairly active; no adhesions. In both eyes the media clear, but the choroids extensively atrophied and thin. In both were numerous patches, in which the sclerotic was seen through; some of them abruptly defined, others not so. The optic disc not easily distinguishable from the surrounding choroid. Numerous pigment spots in various parts	The iodide of potassium in full doses was prescribed together with the bichloride of mercury. The disease was, however, in too advanced a stage to permit of much hope of benefit	In this case the true nature of the disease had never been suspected. The man appeared in good health, and had no syphilitic symptoms since the rash disappeared. He was reduced to a state of almost entire blindness, which will probably be permanent	21
Pupils dilate well. No adhesions in either eye. The media were clear, but the retina, especially near to the optic disc, was confused and hazy. The margins of the optic discs were indistinct. She could read No. 8, but only with difficulty	Iodide of potassium and mercurials. Two months later she could see to read No. 4 (minion) at ordinary distances, and had been wholly free from pain in the globes since treatment was commenced	In this case the patient was slightly, hypermetropic, and the subjective symptoms of which she complained might easily have been attributed to that condition had she not volunteered a statement as to her syphilitic history, which led to an examination by the ophthalmoscope	22
Both globes congested and irritable. Iritis adhesions in both, and chronic iritis still present. The pupils dilated irregularly under atropine. In the left there was too much opacity of the vitreous body to permit of the fundus being seen. In the right the retina was hazy. She still retained sufficient sight for her ordinary occupation.	The bichloride of mercury with the iodide of potassium was prescribed, and atropine used locally. She remained under treatment for several months, but the benefit obtained was not very marked	This case somewhat resembles Case 9, in the entire absence of history. The disease in the eye was, however, symmetrical, and, as it was complicated by iritis in both, I could feel no doubt as to the diagnosis	23

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TABULAR STATEMENT OF TWENTY-FIVE CASES

No.	Name, Date of Admission, Occupation, State of Health	Age	History of the primary disease, and of its treatment.	Interval between primary disease and the affection of the eyes.	Other symptoms present at the time of admission.	History of the Ophthalmitis.
19	Mrs. J., Married, Good health, B. page 37	25	Had primary syphilis five years ago, which was followed by rash and double iritis. Treated by mercury, and recovered perfectly	5 years	None	She had retained excellent sight until a fortnight before admission, when without any pain she began to see dimly. The attack commenced rather suddenly.
20	Mary A. W., Married, Dark complexioned, pale, No family March 24, 1862, B. page 34	29	She had syphilis from her husband three years ago, and had rash afterwards	Interval probably 2 years	None. (Three years had elapsed since the primary disease).	Her eyes have been failing for a year, but more for the last five months
21	Jesse W., A Bargeman from Shropshire, Healthy, March 17, 1862, B. page 32	33	Had a "dry sore" four years ago, which was followed by a rash. He believed that he had not taken mercury. After the rash disappeared, he remained wholly without symptoms, with the exception of the eyes	18 months	None. (Four years had elapsed since the primary disease.)	He first noticed two years and a half ago a dimness, and was afterwards troubled with photopsia. These symptoms steadily and slowly progressed until in the course of two years he became almost blind. Probably no specific treatment.
22	Mrs. B., In excellent health, B. page 50	30	She had had sores followed by rash two years ago, and was freely treated both by mercury and iodides	Nearly 2 years	None. (Nearly two years had elapsed).	A little pricking, shooting pain in the globe for a few weeks before admission, accompanied with dimness of sight, which had varied much at different times
23	Elizabeth C., A cook, Nov., 1861, B. page 21	30	She denied all history of primary disease, but there were at the time a few suspicious-looking blotches on the arms	Doubtful	A few suspicious-looking blotches on the arms	Eleven months ago a "mist came over the right eye." There was a good deal of circumorbital aching, but no acute pain

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TABULAR STATEMENT OF TWENTY-FIVE CASES

No.	Name, Date of Admission, Occupation, State of Health.	Age	History of the primary disease, and of its treatment.	Interval between primary disease and the affection of the eyes.	Other symptoms present at the time of admission.	History of the Ophthalmitis.
24	Ellen G., A dressmaker, Stout and florid, P. page 15	22	Had had a bubo, followed by a rash two years ago	20 months	None. (Two years had elapsed).	For three or four months she had noticed that her right pupil was larger than the other. Her sight had failed in both, but especially in the left. During the last fortnight she had been unable to follow her occupation, but previously she could see to thread a needle
25	Elizabeth S., In service, Health good B. page 36	22	She had primary syphilis in January of this year, and was salivated. No secondary symptoms except the disease of eyes	6 months	None	She complained of gradual failure of sight during the last two months. There was no congestion of the globes, nor had there been any pain whatever

GENERAL REMARKS ON THE SERIES.

THE cases which I have cited, show in a strong light how important is a good clinical knowledge of these insidious forms of disease. In a considerable proportion, one or both eyes had been permanently damaged by inflammatory processes, which, had they been recognised in an early stage, might have been arrested. It is a remarkable fact that but few of the patients were suffering at the time from other symptoms of syphilis in a severe degree. In iritis, very frequently the patients present at the time a form of rash, and of throat disease, which at once reveal the taint under which they suffer. In not a few of the cases under consideration, no external manifestations of the specific disease were present, and it was only by entering carefully into the history, that a correct diagnosis was established. The importance of employing the ophthalmoscope, in all cases of impaired vision, can scarcely be overrated. In several of my cases the degree of impairment present, was not so great but that it might

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OF SYPHILITIC CHOROIDITIS, RETINITIS, &c.

State of the Eyes at the date of Admission.	Treatment, Progress, and Results.	Remarks.	No.
Right pupil widely dilated and quite motionless; no synechia in the right, but several in the left. The retina in both eyes were hazy; in the left very much so. She could see fairly with the right eye, but not sufficiently to read small print.	Specific treatment was adopted, but I have no note as to the subsequent progress	The mydriasis was an interesting symptom in this case; it occurred in the eye in which the retina was less involved than in the other	24
No synechia were visible until the pupils had been dilated by atropine, when several came into view. In both eyes the media were transparent with the exception of several floating films in the right vitreous. In both choroids were numerous patches of greyish-white lymph. She could not read large capital letters	Calomel in half-grain doses twice a day, and iodide of potassium was ordered. Under this treatment the eyes improved very much	In this case there was nothing in the patient's appearance to suggest a diagnosis of syphilis, and it was only on examination of the eyes that the suspicion arose. On being questioned, the patient at once confessed that she had the primary disease	25

have been attributed to some other cause, had not the retinal disease been demonstrated, in one indeed, hypermetropia had been diagnosed, and the patient had been instructed to wear glasses.

If this precaution be taken, the surgeon is in little risk of overlooking syphilitic affections of this class, for, like syphilitic iritis, when once seen these changes are easily recognised. If patches of recent lymph are seen in the choroid, the suspicion of syphilis ought to be entertained just as promptly as it usually is in cases of iritis. I do not say that all cases of iritis, or all of choroiditis, are due to syphilis, but I am sure that a very large proportion of both are so.

The coexistence of iritis with inflammation of the deeper textures of the eyeball, would appear to be exceptional. It is true that choroiditis, &c., may be present more frequently than we suppose in cases of acute iritis, since in most of these we are precluded by the state of the pupil, the intolerance of light, &c., from making a satisfactory examination with the ophthalmoscope. It is, however, tolerably certain

that it is not so in the majority of cases. In a majority of the choroiditis cases, on the other hand, it is certain that no iritis is present. Of the twenty-five cases cited, in eleven there had been iritis, but in most of them it had not been severe. In four it had affected but one eye, whilst in seven it had been double.

A glance at column 10 of the Tabular Report, will suffice to show that but little clinical advantage would be gained from attempting to classify the cases too accurately according to the special tissue affected. The assertion on this point, made long ago by Dr. Jacob, is fully borne out, and we find that the inflammation rarely limits itself to one tissue. It is true that in most cases the stress of the disease falls upon one tissue, but still is exceptional to find it strictly limited to one.

With regard to *prognosis*, we must be guided by the stage and the severity of the disease. If choroid, retina and vitreous are all affected, the prospect of anything like restoration of perfect sight is not great. Opacities in the vitreous are, according to my experience, the most difficult of absorption. If the disease consist only in a haziness and congestion of the retina itself, and if the patient have not been recently under specific treatment, there is then a fair probability that by resort to mercurials, a perfect restoration may be brought about. The absorption of large quantities of lymph from the choroid, may often be procured by like means, but in these cases the tissue is rarely restored to a normal condition, and very often the super-imposed retinal elements have had their relations too much disturbed to permit of complete recovery of function. The duration of the disease is, however, by far the most important element in forming an opinion as to probable future results. If the case be quite recent, there is everything to hope, though, of course, with a somewhat restrained confidence. Cases 4, 7, 8, and 21, illustrate the lamentable terminations, when no specific treatment is resorted to, and cases 1, 2, 9, 11, 14, and 19, on the other hand, show the excellent results of its timely adoption.

The *treatment* which I prefer is the use of large doses of iodide of potassium (gr. x to gr. xv, t. d.) and of small ones of mercurials. If, however, the patient have been recently salivated, the iodide may be employed alone. It is, I believe, very desirable to begin with large doses. If the case be of old standing, a long course of the bichloride of mercury, in combination with the iodide of potassium, is, I think, the

best plan. Should there be any tensive pain in the globe or orbit, evidencing a turgid state of vessels, the application of relays of leeches to the temple may be found useful. As in all cases of constitutional syphilis, the patient's general health should be most carefully attended to. Although as the result of extended and careful observation, I entertain the most unbounded confidence in the power of mercurials and iodides in procuring the absorption of syphilitic lymph; yet I must confess, that I hold a very guarded opinion as to their efficiency in preventing relapses, or in securing immunity from future manifestations of the taint. The avoidance of these seems to depend very much upon the condition of the patient's health.

With regard to the stage in the course of constitutional syphilis, at which the patient is liable to suffer from inflammations of the deep textures of the eye, it may be noted that they are most common during the *secondary* phenomena. Of the cases before us, in nine, the interval from the date of the primary sore was less than six months; in four, more than six and less than twelve months; in four, between one and two years; in three, it was more than two years; whilst in five, owing to imperfect history, it could not be calculated. We may, therefore, safely conclude that these forms of syphilitic inflammation rarely originate later than two years after the primary disease. Syphilitic iritis, as is generally acknowledged, and as I have ascertained by the examination of a lengthened series of cases, is mostly earlier still in the rôle of constitutional symptoms.

The age at which these affections are most frequent will, of course, be in correspondence with that at which primary syphilis is most frequently contracted. That they may occur at almost any age is illustrated by our series, for in one of the cases the patient had attained the age of 65. In sixteen out of the twenty-five, the patients had not passed the age of 30; in seven, they were between 30 and 40; but in two only, were they beyond 40.

It is a curious fact, possibly nothing more than a coincidence, but still worthy of note, that only seven of the patients were men, whilst eighteen were females; a relative proportion the reverse of what might have been expected. Syphilitic iritis is certainly met with much more frequently in men than in women.

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CLINICAL SURGERY,

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**LECTURES, REPORTS, COMMENTARIES, AND
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